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ATEC DIGITAL ADAPTATION STUDY, DEVELOPMENT AND FIELD EVALUATION--ETC(U)  
JAN 78 T J CAMPBELL, W F ACKER, C L CHRISTNER F30602-75-C-0282  
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RADC-TR-77-431, Volume III (of three)  
Final Technical Report  
January 1978

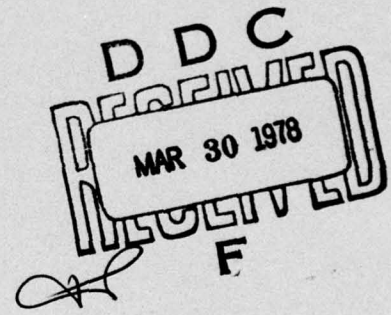


ATEC DIGITAL ADAPTATION STUDY, Development and Field  
Evaluation - Digital Automated Technical Control

Mr. T.J. Campbell  
Dr. W.F. Acker  
Mr. C.L. Christner

Mr. D.T. Doyle  
Mr. W.M. Goldstein  
Mr. R.L. Tufaner

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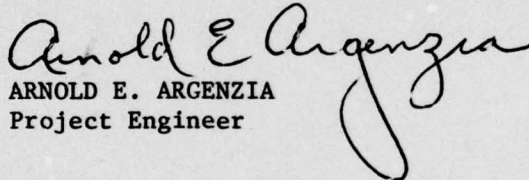
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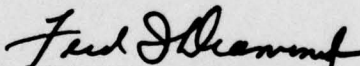
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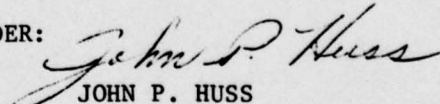
APPROVED:

  
ARNOLD E. ARGENZIA  
Project Engineer

APPROVED:

  
FRED I. DIAMOND  
Technical Director  
Communications and Control Division

FOR THE COMMANDER:

  
JOHN P. HUSS  
Acting Chief, Plans Office

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1. REPORT NUMBER RADCR-77-431, Vol III (of three)	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) ATEC DIGITAL ADAPTATION STUDY, Development and Field Evaluation - Digital Automated Technical Control.	5. TYPE OF REPORT & PERIOD COVERED Final Technical Report. March 1977 - August 1977	6. PERFORMING ORG. REPORT NUMBER 1077-14813-Vol-3
7. AUTHOR(s) M. T.J. Campbell, D.T. Doyle W.F. Acker, W.M. Goldstein C.L. Christner, Mr. J. T. Toman	8. CONTRACT OR GRANT NUMBER(s) F30602-75-C-0282	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Honeywell Inc./Avionics Division 13350 U.S. Highway 19 St. Petersburg FL 33733	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 33126F 21550101	
11. CONTROLLING OFFICE NAME AND ADDRESS Rome Air Development Center (DCLD) Griffiss AFB NY 13441	12. REPORT DATE January 1978	13. NUMBER OF PAGES 12 167p.
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Same	15. SECURITY CLASS. (of this report) UNCLASSIFIED	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Same		
18. SUPPLEMENTARY NOTES RADCR Project Engineer: Arnold E. Argenzia (DCLD) (See reverse)		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Performance Assessment, Fault Isolation, and Trend Analysis (PA/FI/TA) in Digital Transmission Systems ATEC (Automatic Technical Control) Applicability for PA/FI/TA in the FKV Digital Transmission System Sudden Service Failure Sensing System (SSFSS)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Subsequent to the completion of the feasibility phase of the ATEC Digital Adaptation Study, existing ATEC hardware and software was adapted or developed to provide Performance Assessment (PA), Fault Isolation (FI) and Trend Analysis for the FKV type digital transmission systems. The resulting DATEC system was then field tested using the facilities of the digital transmission test bed located at Ft. Huachuca, Arizona. The purpose of the field evaluation was to confirm the basic concepts, exercise and test the developed hardware		

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and software, and verify DATEC's capabilities to accomplish PA/FI/TA in the operational environment of an operating digital transmission system. These DATEC capabilities are directed towards the centralized nodal monitoring of numerous digital transmissions links.

The DATEC field evaluation confirmed both the practicality and advantages inherent in automated digital system monitoring, insofar as enabling the centrally located controller to performance assess, trend analyze and fault isolate the digital transmission system for numerous failure occurrences and patterns and system parameter degradation. DATEC enables technicians to monitor in-service system parameters thereby enhancing system performance and allowing more efficient utilization of maintenance resources.

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## Section 7

### CONCLUSIONS AND RECOMMENDATIONS

#### 7.1 GENERAL

This section presents the conclusions and recommendations that result following the satisfactory completion of the final phase of the ATEC Digital Adaptation Study, the Field Test and Evaluation of the Digital Automated Technical Control (DATEC) equipment, performed in conjunction with the digital transmission communications test bed located at Fort Huachuca, Arizona.

#### 7.2 CONCLUSIONS

The overall conclusion of this report is that the DATEC system successfully completed all requirements of the Statement of Work (S.O.W.). This conclusion is based on the satisfactory adaptation of ATEC hardware and software for digital application as evidenced by test data resulting from execution of the In-Plant Test Plan and Procedures and by the data evaluations presented in Section 2, Field Test Results (Individual Summaries of Tests and Scenarios), and Section 3, Field Test Results Relative to Statement Work Requirements in the Field Test and Evaluation Report. Section 3 of that test report was included in this report (see Section 6), because it addresses S.O.W. compliance directly, and because it provides a complete resume of the field test phase.

The specific objective of the field test was the collection of data to demonstrate confirmation of the tasks that are specified in Paragraph 4.1.12.7 of the Statement of Work. Summarizing those requirements, the field objectives were: (1) gather test data to demonstrate whether the DATEC system satisfied the S.O.W. and system design objectives for PA/FI/TA; (2) perform system level testing to collect data which can be used to evaluate the accuracy, usefulness, and effectiveness of the DATEC system in monitoring a digital transmission link; and (3) make recommendations which will enhance the usefulness and effectiveness of the DATEC system based on field test results. Contract amendment number 5 added as an additional test objective, the demonstration that the DATEC system could be used to monitor non FKV communications equipment by performing add-on field tests using the AVANTEK DR8A radio (DEB prototype) in place of the AN/FRC-162(V) radio.

The field test program successfully satisfied all the S.O.W. requirements and system performance objectives.

Test data recorded during the validation and system scenario evaluation test periods illustrate the adequacy of the monitor points selected by DATEC for monitoring the digital transmission system. Furthermore, the test data demonstrates the usefulness and effectiveness of the DATEC system in accomplishing performance assessment, fault isolation, and trend analysis of the digital transmission system.

The DATEC system ability to accomplish performance assessment and trend analysis was satisfactorily demonstrated and documented without compromise or qualification. The DATEC fault isolation capability was also successfully demonstrated but its success was somewhat diminished by technical controller comments that the system scan rate was not fast enough to satisfy their need for near real time fault isolation unless DATEC is used in the monitor immediate mode. The use of the monitor immediate mode was demonstrated effective during fault isolation but it requires that the normal system scanning be interrupted during its use. The comments relative to scanning rate did not apply to the SSFSS which was shown effective in detecting a loss of service condition and reporting it to the technical controller within 4 seconds regardless of the number of sites under nodal control jurisdiction.

The nodal control concept which would enable a single nodal controller to accomplish PA/FI/TA on a multiple site configuration was confirmed by the system scenario test results. The test results demonstrated the adequacy of the software in accomplishing all system objectives. Also demonstrated was the ease of software maintainability and field modifications afforded by the DATEC software program modularity and top-down structured programming design.

Equipment logs attest to the overall DATEC system reliability and performance. Hardware down time remained less than one day, cumulative, throughout the three month test period ending 30 June. Additional down time was experienced during the add-on testing due to a Caelus Disk problem.

The usefulness of the BEM and EPUT at providing a measure of the system bit error rate was demonstrated during the system scenario testing and the add-on testing. The BEM ability to provide a measure of the system BER to  $10^{-15}$  was shown to be an effective performance assessment measurement which permits a direct indication of system performance in a region previously unmeasurable by any other measuring instrument.

DATEC adaptability to other communications equipment types was successfully demonstrated by the test results from the validation and system scenario evaluation tests performed on the digital transmission system configured with the AVANTEK DR8A Microwave Radio in place of the AN/FRC-162(V) Microwave Radio.

### 7.3 RECOMMENDATIONS

The field test recommendations address those areas of system operation where the modification or addition of system operating features could add to the overall usefulness and effectiveness of the DATEC system. Additional testing is also recommended which would help answer remaining questions.

Table 7-1 contains the recommended system operating features and their usefulness in enhancing the DATEC system operation.

All of the recommendations listed in Table 7-1 can be accomplished. Many of them require only minor changes to the software. The most difficult is that of increasing the DATEC system scan rate, for this involves both hardware and software changes. Yet, even this is possible.

#### 7.3.1 User Desired Features Not Currently Part of DATEC

The DATEC system S.O.W. and operating objectives addressed those areas judged necessary in performing PA/FI/TA on a digital transmission system. The technical controllers expressed an interest in other system features which were not a part of the DATEC system objectives; however, they represent user preferences and are therefore listed below. These features can be provided by software program additions and are not considered difficult although items 1, 2 and 3 would be somewhat complicated. The features not currently part of DATEC are:

1. Generation of DCA reports.
2. Circuit, digroup, link and trunk identification numbers with priorities.
3. Circuit altroute information.
4. Multiple CRTs for technical control and maintenance use.
5. Individual VF channel monitoring.
6. Long term (90 day) storage of hourly averages of key parameters.
7. Remote switching of standby radios and multiplexers.  
(Recommended in the ATEC Digital Adaptation Study Report.)

TABLE 7-1. RECOMMENDED SYSTEM OPERATING  
FEATURES VERSUS USEFULNESS

<u>Recommended System Features</u>	<u>Usefulness</u>
1. Immediate scan interrupt capability	Allows the nodal controller to gain immediate DATEC system control. Currently, the in-process measurement is completed before the operator gets control.
2. Colocate SSFSS and CRT	System testing confirmed the need to colocate the SSFSS and CRT in order to provide timely, effective system monitoring.
3. Increase system scan rate	Provides more effective usage of system during fault isolation by allowing the system to remain in normal scan instead of going to Monitor Immediate for parameter updates.
4. Update CRT display with a single computer output	Speeds up CRT output display time to an average of 10 seconds per display type, a factor of two improvement over the current method which outputs display formats and data separately.
5. CRT Paging within a single site	Allows the nodal controller to access various site displays using only a single page number.
6. Provide automatic DATEC self-test	Incorporation of a system self-test routine at the end of a scan could minimize DATEC system down time due to faulty DATEC equipment. Current system has self-test by operator command.
7. Telemetry reroute capability	The capability to reroute the telemetry through a 3 kHz channel could help eliminate telemetry down time during an emergency situation.

TABLE 7-1. RECOMMENDED SYSTEM OPERATING  
FEATURES VERSUS USEFULNESS (Continued)

<u>Recommended System Features</u>	<u>Usefulness</u>
8. Provide fast EPUT and BEM Hits counter time bases	Provides rapid update of FER and Hits during fault isolation testing using Monitor Immediate function.
9. Constructable Monitor Immediate scan sequence	Allows nodal controller to construct his own scan sequence.
10. Add display type argument to Monitor Immediate command	Allows nodal controller to select display type as part of Monitor Immediate command instead of current method which requires a separate display command.
11. Provide CRT indication of:	Alerts nodal controller that:
(1) Monitor Immediate usage,	(1) The system is out of normal scan mode,
(2) Baseband (A or B) being monitored by BEM	(2) BEM is connected to A or B Radio Baseband.
12. Show highest level system alarm as part of major alarm warning indicator	Notifies nodal controller of highest level fault in the system.
13. Add alarm scanner and TLWB1 FER commands to Monitor Immediate	Provides additional fault isolation capability to the nodal controller when using Monitor Immediate.
14. Add alarm thresholds to the key trend analysis parameters	Provides additional fault isolation information for system degradation analysis.

### 7.3.2 Recommendations For Future Consideration

Although the field test was successful in all areas explored, it left unanswered, several questions which only an extended operational field test could answer. Included among these are:

1. Long term trend analysis evaluation and usefulness
2. Technical controller/DATEC interface in an operational multilink environment
3. DATEC use and effectiveness in scheduling maintenance
4. Usefulness of correlatable parameters
5. Usefulness of existing fault isolation capability in an operational multilink environment.

The answers to these questions would provide valuable information for future system specifications and design.

Appendix A  
EQUIPMENT DESCRIPTION

## Appendix A

### EQUIPMENT DESCRIPTION

#### A.1 GENERAL

DATEC consists of selected ATEC equipments adapted to monitor, measure, and analyze the quality of hybrid analog and PCM/TDM data signals. Basic functions are to convert the values of slowly varying dc signals to digital form, sense the status of two-state alarms in the monitored equipment, measure and analyze the signal/noise ratio, and amplitude levels. The DATEC equipment consists of a Test Set, Electronic Systems, AN/GYM-13(V)1, commonly referred to as a Programmable ATEC Element (PATE), configured for in-service voice frequency (ISVF) measurements; a Test Set Group, Communications Circuit, OQ-224(V), commonly referred to as a Measurement Acquisition Unit (MAU) with an adapted analog scanner and adapted baseband monitor option which is referred to as the Baseband Eye Monitor (BEM), and an Alarm-Monitor Group, OD-123(V)/G, commonly referred to as an Alarm Reporting Set (ARS). Input/output terminals supplement these configurations of the DATEC equipment.

#### A.2 PATE HARDWARE DESCRIPTION

The PATE, Figure A-1, used in conjunction with DATEC, is a computer controlled test set capable of providing continuous automatic performance monitoring and assessment of selected communication circuits. The PATE provides noninterfering, in-service monitoring and assessment of voice frequency (VF) circuits and inputs from digital data monitors. A functional block diagram of PATE is shown in Figure A-2. The PATE is operated in a stand-alone mode. The PATE consists of a standard 19-inch electronic equipment rack which contains a Rack Primary Power Panel, Scanner Power Supply, Scanner, Jack Panel, Signal Parameter Converter, an H-316R Computer, and a Disk Memory Unit. These units are described in the following paragraphs; also reference Figure A-2, PATE Functional Block Diagram.

##### A.2.1 Rack Primary Power Panel

The Primary Power Panel (Figure A-3) contains a circuit breaker which functions as the rack ON-OFF switch, a pilot lamp, and a set of ac line filters. The panel provides ac power distribution to PATE components by means of a terminal strip to which all other rack units are connected.

##### A.2.2 Scanner Power Supply

The Scanner Power Supply (Figure A-4) contains a regulated  $\pm 5$  vdc power supply which provides operating power for the Scanner

PRIMARY POWER REQUIREMENT  
115 VAC  
60 HZ  
610 WATTS  
THERMAL LOAD  
2080 BTU/HR

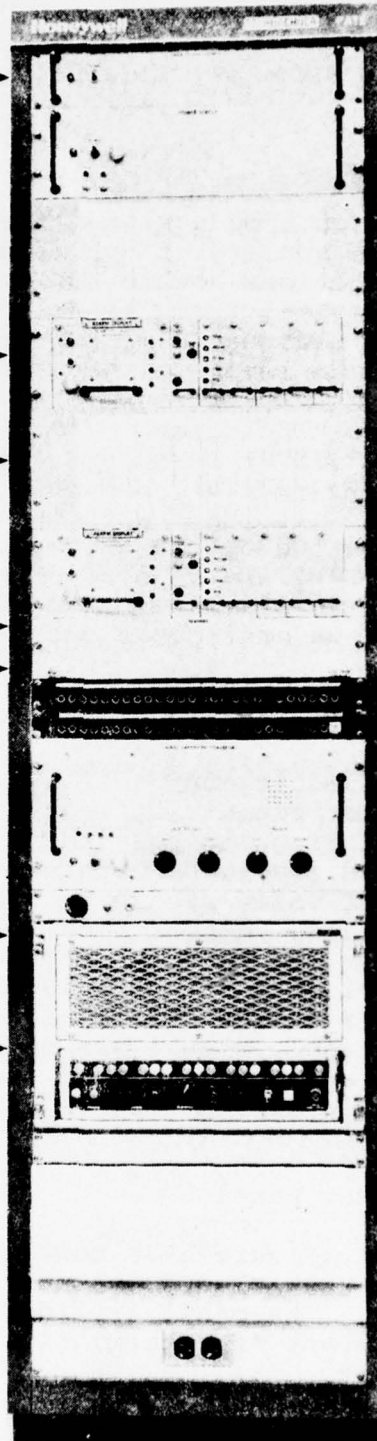
FT. HUACHUCA  
ALARM  
SCANNER

SITE SIBYL  
ALARM  
SCANNER

CY-104  
Tx  
Rx

PRINTER ← CRT

MAD AND MAC  
150 BPS IN TANDEM



RACK PRIMARY POWER

SCANNER POWER SUPPLY

NETWORK GRAPHIC DISPLAY

ALARM DISPLAY

NETWORK GRAPHIC DISPLAY

ALARM DISPLAY

ANALOG SCANNER

JACK PANEL

SIGNAL  
PARAMETER  
CONVERTER

BLANK

H-316R

BLANK

DISK

POWER OUTLET

FIGURE A-1. PATE RACK ASSEMBLY, FORT HUACHUCA, ARIZONA

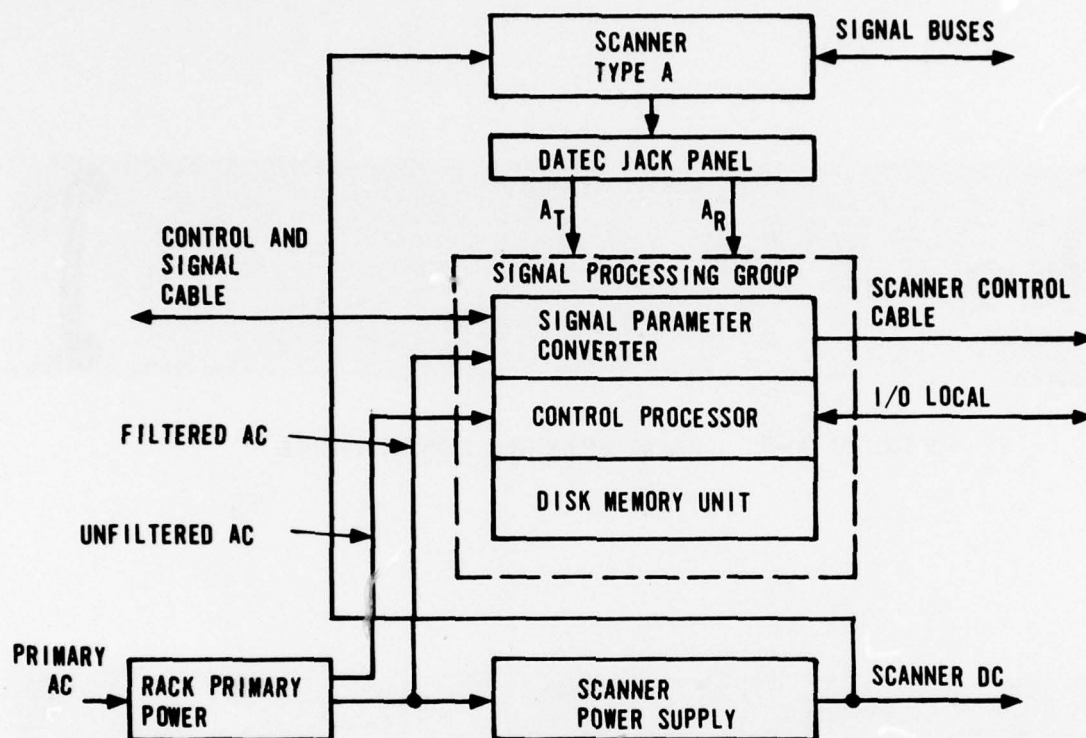


FIGURE A-2. PATE FUNCTIONAL BLOCK DIAGRAM

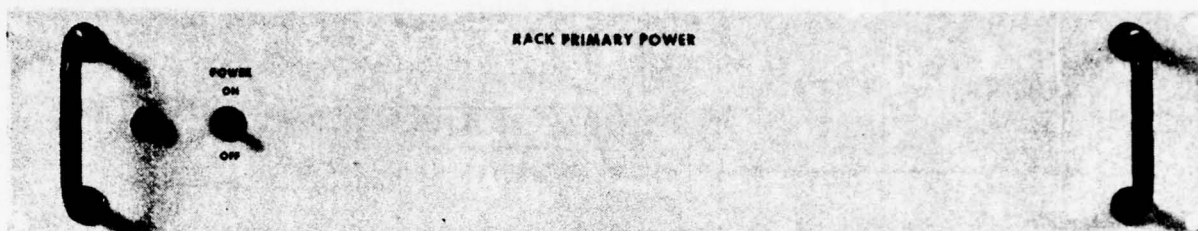


FIGURE A-3. RACK PRIMARY POWER PANEL

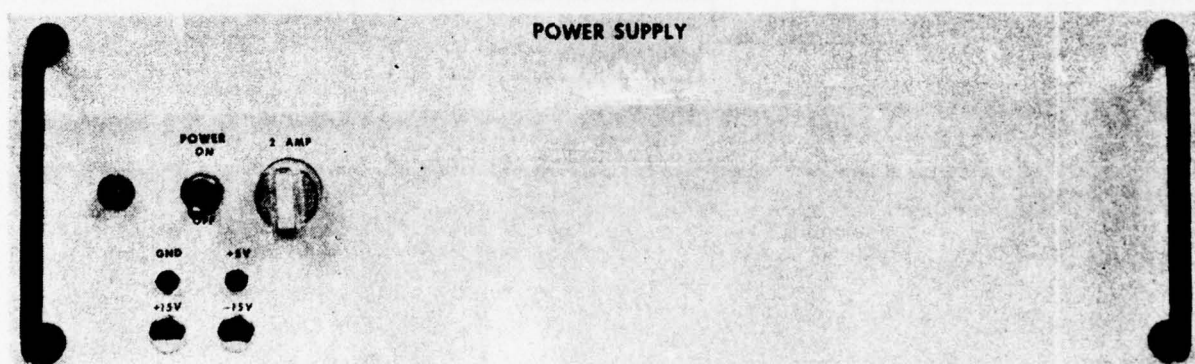


FIGURE A-4. SCANNER POWER SUPPLY PANEL

drawer. A POWER ON switch, 1-ampere fuse, and pilot light are mounted on the front panel. The pilot light indicates both the power ON condition and that the +5 vdc output is available.

#### A.2.3 Scanner

The Form A Scanner shown in Figure A-5 provides the interface between the communications circuits and the Signal Parameter Converter (SPC). At Fort Huachuca, the scanner is the Form A type.

The Scanner drawer contains one circuit control card, one address decode card, and 10 relay cards. A slot is provided for a scanner test card, one of which is provided with each PATE.

The Form A Scanner relay card has 11 relays. Ten relays are used to selectively switch data circuits to the SPC. The remaining relay functions as a fail-safe electronic switch to protect the data bus in the event of a relay failure. Collectively, the 10 circuit select relays provide the capability of scanning 100 two-wire Communication Circuit lines (half duplex) which are connected to the two scanner terminal blocks. Monitoring is performed in a noninterfering manner, using a high impedance bridge-on connection. Monitored points of the digital transmission system are automatically selected through these digitally controlled scanners by the PATE program software.

#### A.2.4 Jack Panel

The Jack Panel shown in Figure A-6 contains two rows of jacks (26 in each row), horizontally oriented, with the transmit functions on the top row and the receive functions on the bottom row. It is used to perform PATE maintenance functions and to manually access and monitor internal data signals and control lines, external data signals and PATE-generated test tones without disturbing circuit configuration or interrupting service.

#### A.2.5 Signal Parameter Converter (SPC)

The Signal Parameter Converter (Figure A-7) converts monitored channel information to a 16-bit digital word to be transferred to the H-316R computer via an input/output bus. The SPC contains control, measurement, and conversion logic to interface the computer with the MAC, MAD or other selected communication circuits under test. A regulated  $\pm 15$  vdc power supply furnishes voltage for lamp drivers, relay driver, operational amplifiers, and other control functions. A regulated +5 vdc power supply furnishes logic level voltages. The power supplies are protected against overload and short circuits by current limiting circuits in the output stages and against internal component failure by an internal fuse.

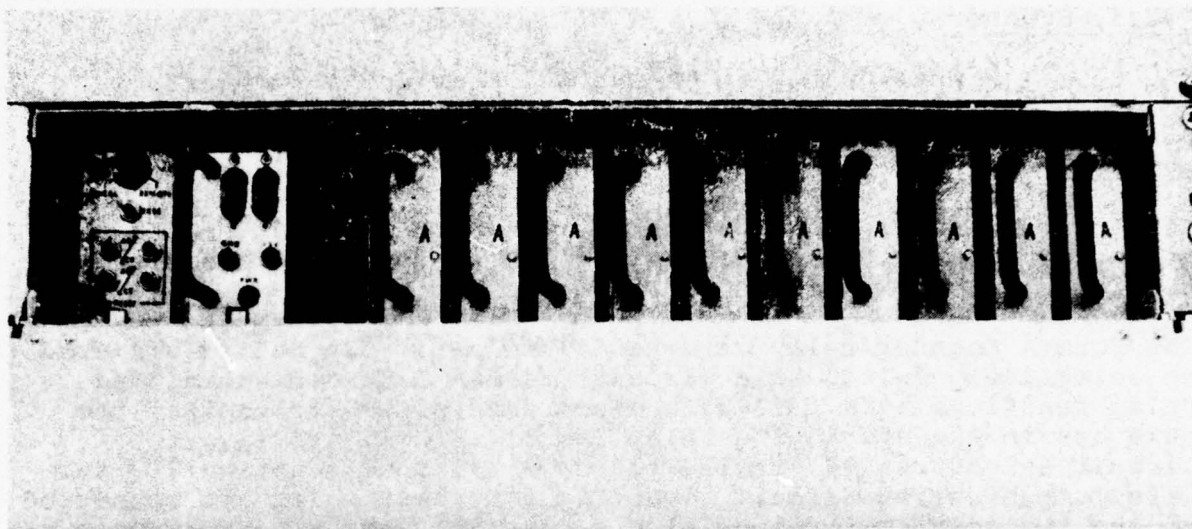


FIGURE A-5. ANALOG SCANNER, FORM A

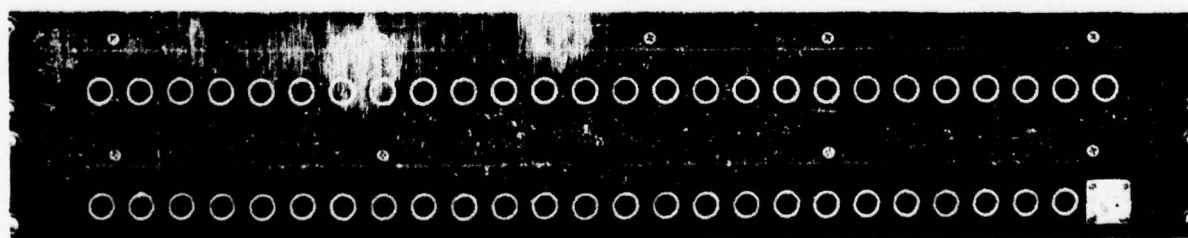


FIGURE A-6. JACK PANEL

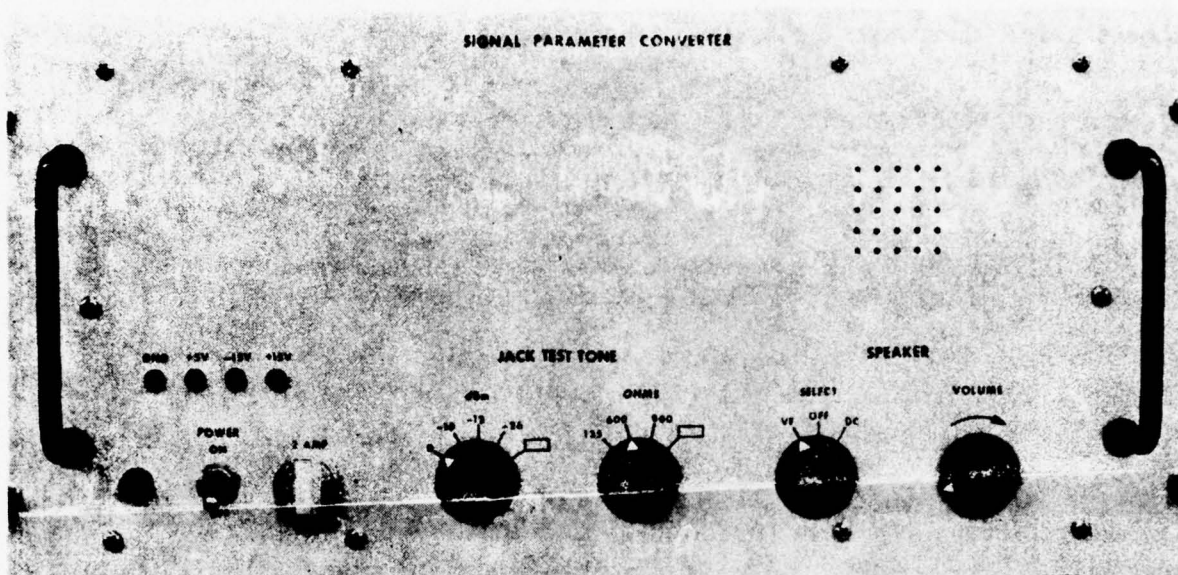


FIGURE A-7. SIGNAL PARAMETER CONVERTER

The SPC drawer also contains input protection circuits to prevent damage from lightning surges, hits on the data lines or from incorrect signals applied through the Jack Panel. The input protection circuits consist of a fused line plus a lightning arrestor.

#### A.2.6 H-316R Computer

The PATE operating program including the measurement parameters and operating thresholds, etc., are called up from the disk by the H-316R Computer as required to satisfy the functions commanded. Operating switches and displays are located on the computer front panel (Figure A-8). A key lock switch prevents unauthorized operation or manipulation of the logic functions. The computer comes equipped with a 16K core memory stack, high speed arithmetic package, real time clock, auto restart, and base sector relocation capability. The computer input/output (I/O) serial port operates at 1200 Baud. The I/O buffers are compatible with RS-232-C code. The PATE program can be operated either automatically or as an interrupt program through use of a local input/output (I/O) terminal.

#### A.2.7 Disk Memory Unit

The Disk Memory Unit (DMU) shown in Figure A-9 is a dual, disk cartridge, servo controlled, drive unit and head positioner with one fixed and one removable cartridge. Each cartridge records at 2200 bits per inch (BPI), and has a 48-megabit storage capacity. Each cartridge has two surfaces, providing a total of four surfaces for each disk unit. However, the cartridges are redundant. The DMU provides a total storage capacity of approximately 2.5 megawords of 16 bits each. The DMU is contained in its own enclosure and is suitable for installation in a standard 19-inch electronics equipment rack. A self-contained regulated power supply furnishes all required power supply voltages.

### A.3 MEASUREMENT ACQUISITION UNIT (MAU) HARDWARE DESCRIPTION

The Measurement Acquisition Unit consists of power supplies, a Form A Scanner modified to include an events per unit time (EPUT) function, Jack Panel, and the Measurement Acquisition Control (MAC). A functional diagram of the MAU is shown in Figure A-10.

#### A.3.1 Power Supplies

The Scanner power supplies (2) and the MAC power supplies (2) used in the MAU operate as constant voltage sources and are modular portions of the MAU. Short circuiting of any of the power supply output circuits will not cause failure or permanent damage in the power supply or associated circuitry.

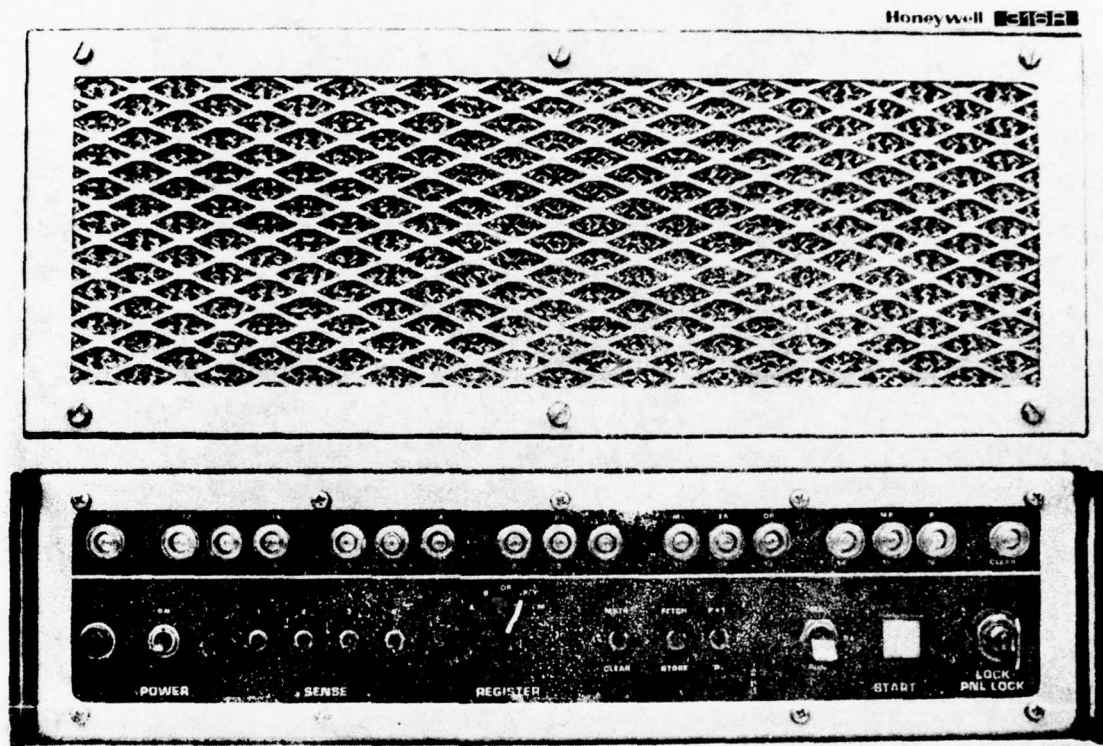


FIGURE A-8. H-316R COMPUTER

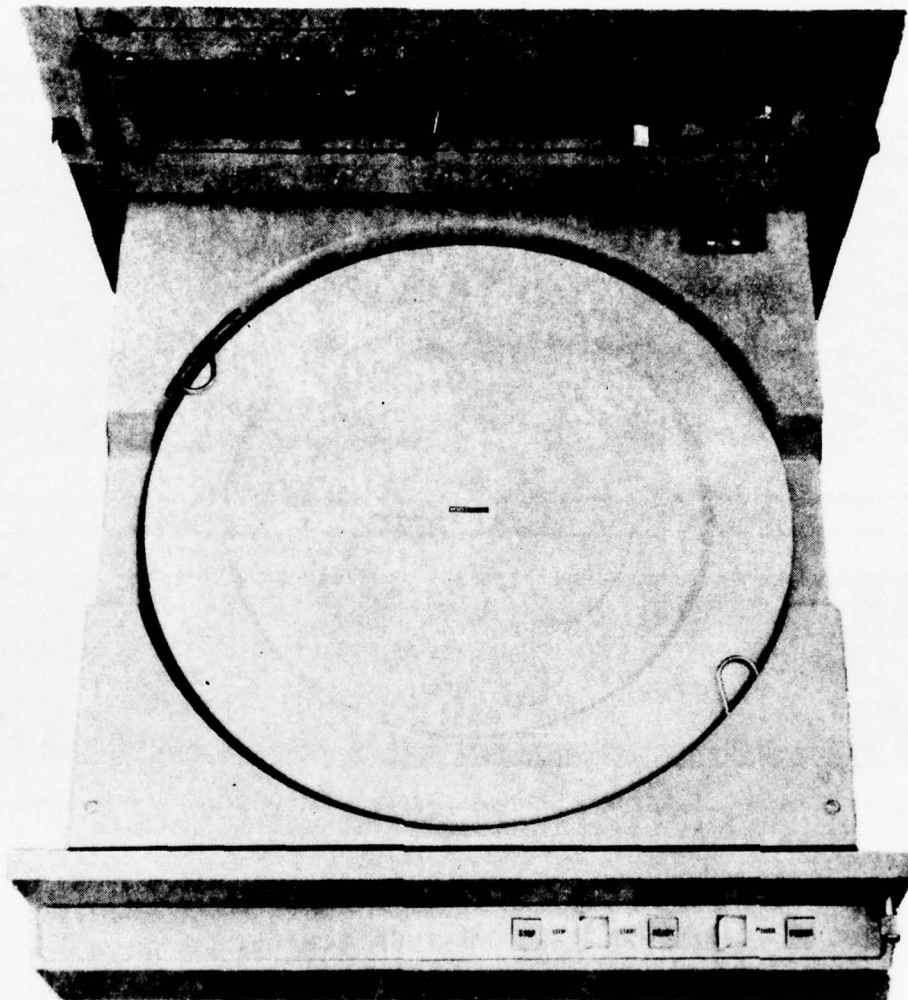


FIGURE A-9. DISK MEMORY UNIT

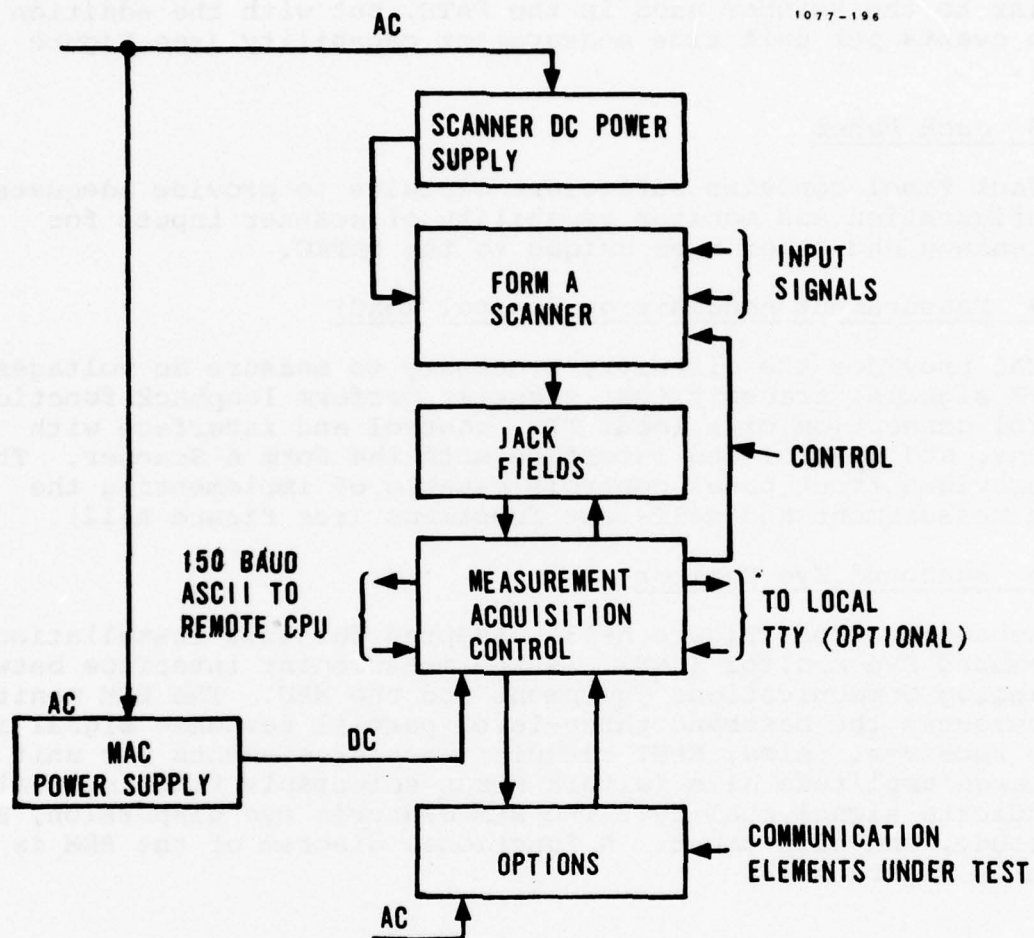


FIGURE A-10. MEASUREMENT ACQUISITION UNIT FUNCTIONAL DIAGRAM

### A.3.2 Scanner

The Scanner is equipped with Form A plug-in relay cards and is similar to the Scanner used in the PATE, but with the addition of an events per unit time measurement capability (see Figure A-11).

### A.3.3 Jack Panel

The Jack Panel contains sufficient circuits to provide adequate reconfiguration and monitor capability of scanner inputs for maintenance and other uses unique to the DATEC.

### A.3.4 Measurement Acquisition Control (MAC)

The MAC provides the circuitry necessary to measure dc voltages and VF signals, transmit test signals, perform loopback functions, control connection of a local TTY, control and interface with options, and control and interface with the Form A Scanner. The MAC provides front panel controls capable of implementing the basic measurement and self-test functions (see Figure A-12).

### A.3.5 Baseband Eye Monitor

A Baseband Monitor (Figure A-13), adapted for this installation as a Baseband Eye Monitor (BEM), is the measurement interface between the analog communications equipment and the MAU. The BEM monitors and measures the baseband three-level partial response signal at a radio receiver. Also, EPUT circuitry measures events per unit time and large amplitude hits (within strap selectable time intervals) to indicate signal quality. The BEM measures eye dispersion, eye amplitude, and hits count. A functional diagram of the BEM is shown in Figure A-14.

## A.4 ALARM REPORTING SET (ARS) HARDWARE DESCRIPTION

The Alarm Reporting Set consists of the Alarm Scanner, Alarm Display, and the Master Alarm Display (MAD) used in various quantities depending on the individual installation. The Alarm Scanner can stand alone and be used as a local alarm sensor and display. If a remote display is desired, an Alarm Display can be used, driven by the Alarm Scanner. An Alarm Display can also be used with a MAD to select and display alarms from as many as 10 remote Alarm Scanners. A functional diagram of the ARS is shown in Figure A-15.

### A.4.1 Alarm Scanner

The Alarm Scanner (Figure A-16) provides the circuitry necessary to scan, detect, and display two-state alarm information; the capability for alarm acknowledgement; and the capability for self-test. The Alarm Scanner provides for connection to an Alarm Display and/or a MAD.

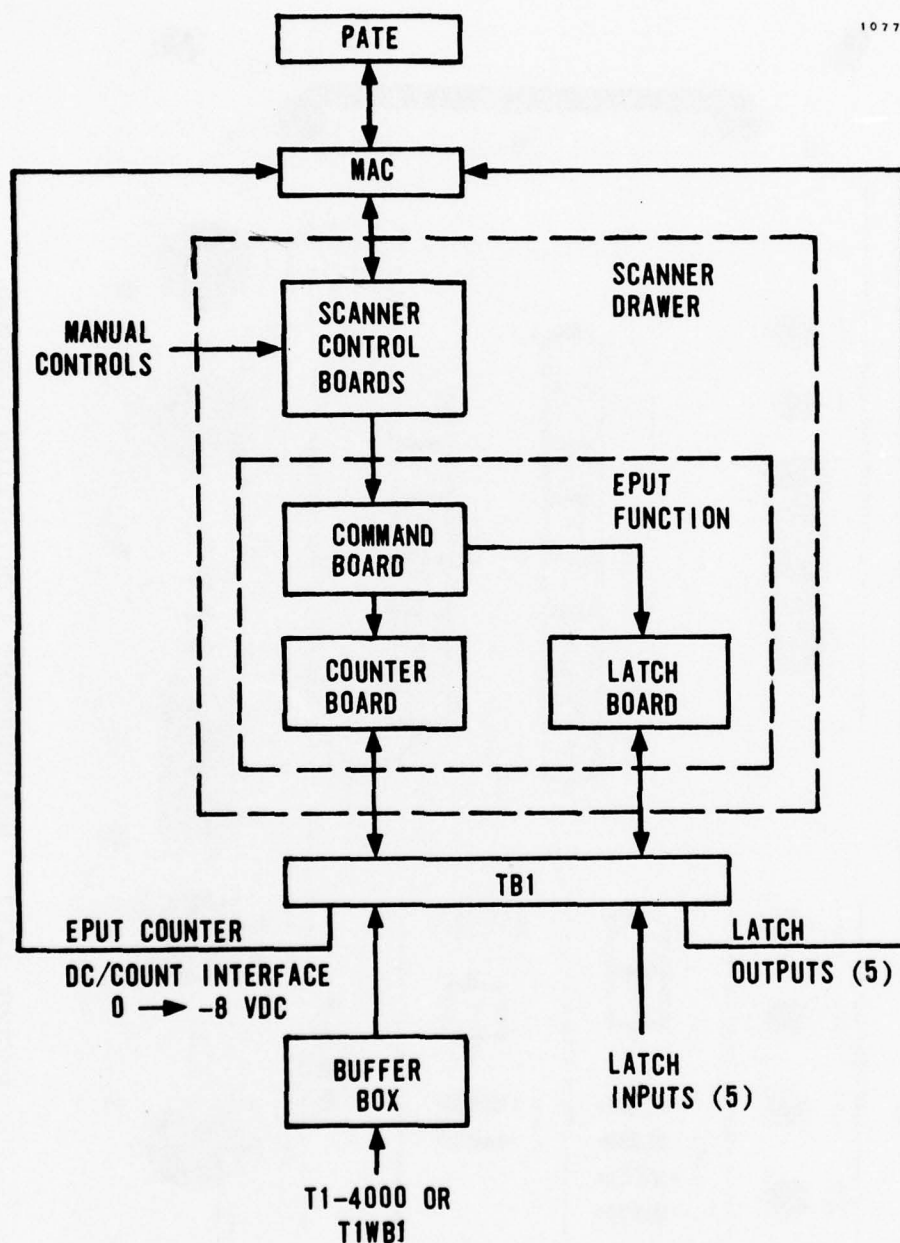


FIGURE A-11. BLOCK DIAGRAM OF SCANNER WITH EPUT FUNCTION

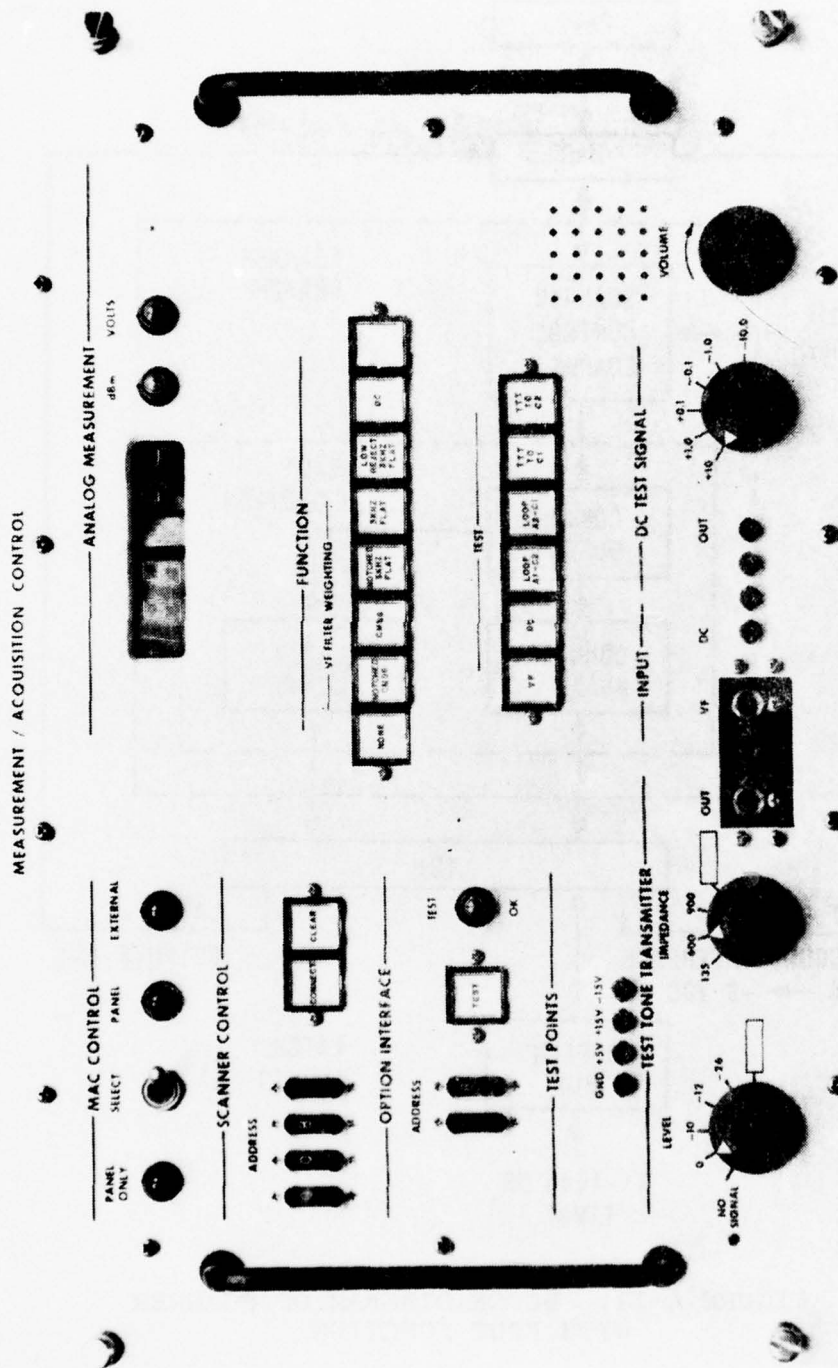


FIGURE A-12. MEASUREMENT ACQUISITION CONTROL

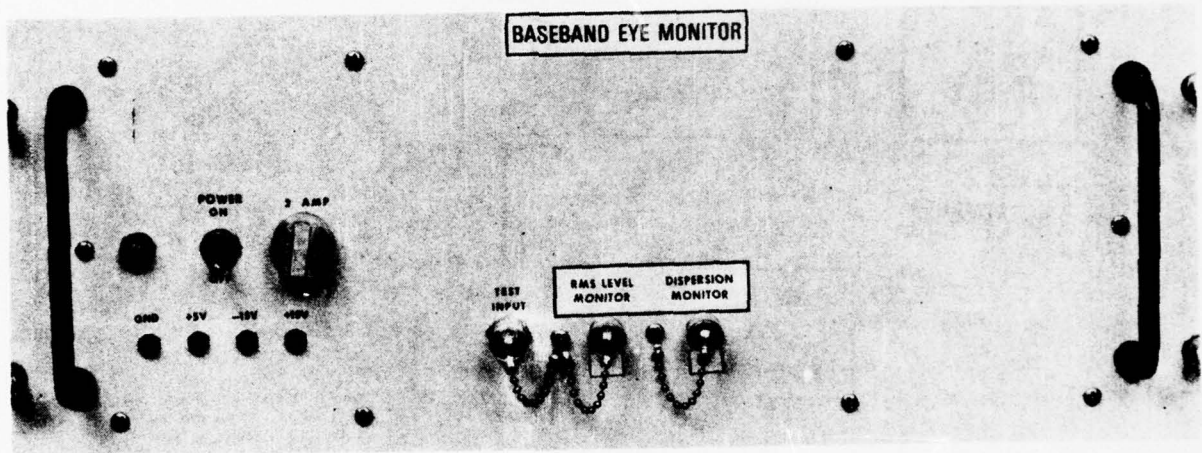


FIGURE A-13. BASEBAND EYE MONITOR

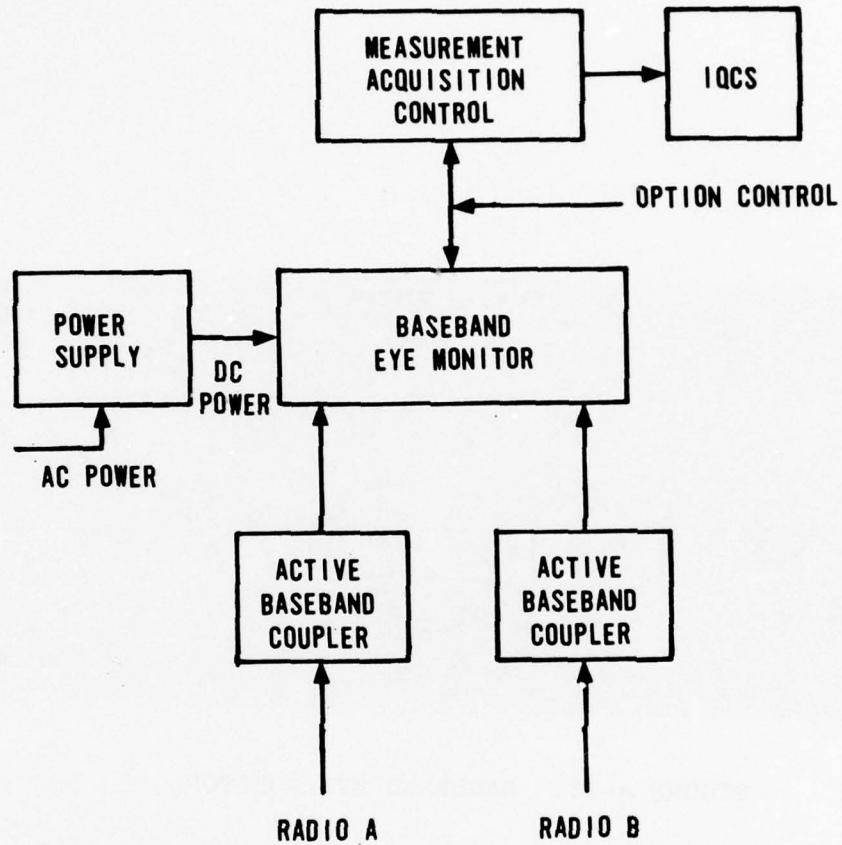


FIGURE A-14. BASEBAND EYE MONITOR FUNCTIONAL DIAGRAM

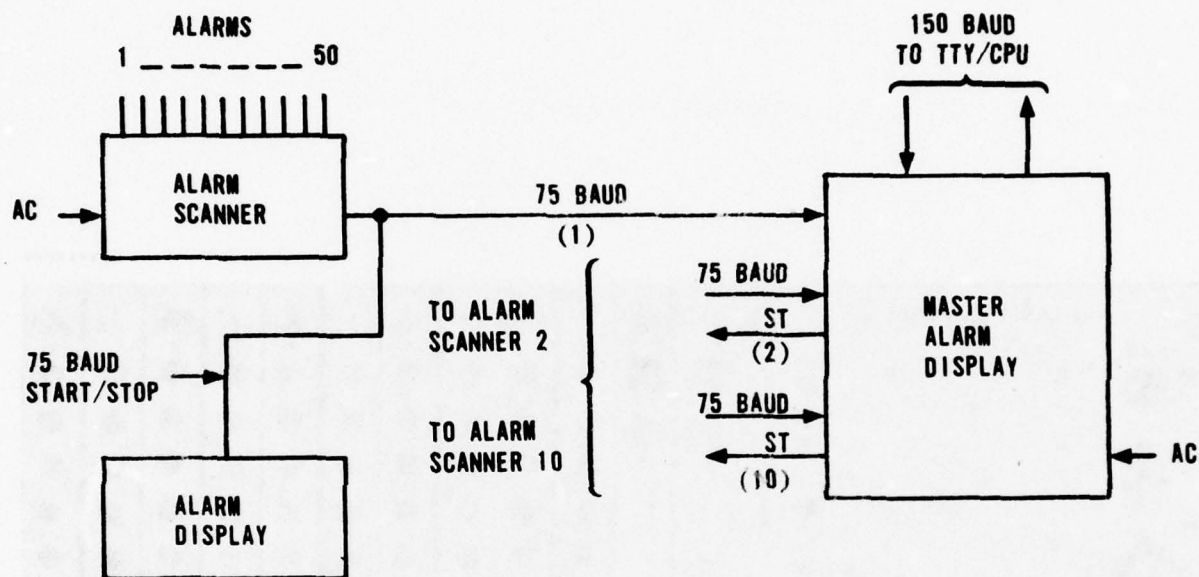


FIGURE A-15. ALARM REPORTING SET FUNCTIONAL DIAGRAM

A7506-040

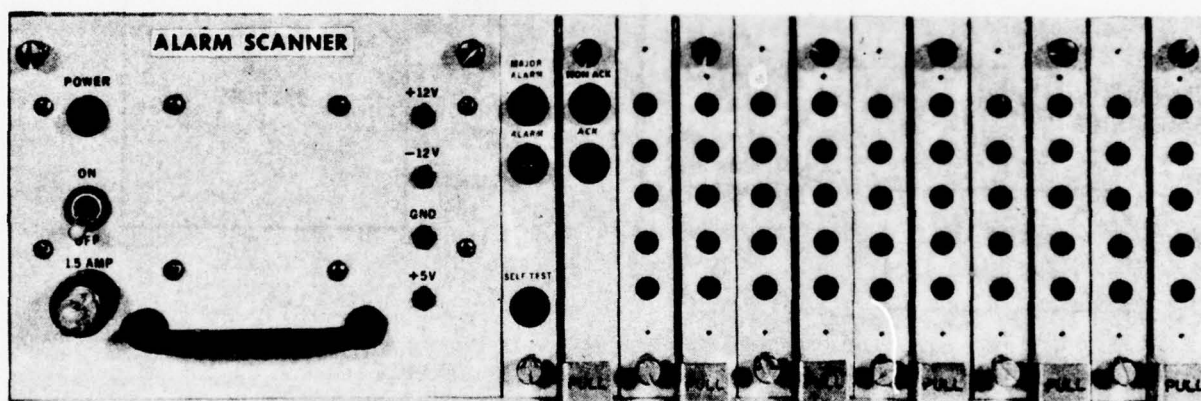


FIGURE A-16. ALARM SCANNER

#### A.4.2 Alarm Display

The Alarm Display (Figure A-17) provides the circuitry necessary to display alarm states detected by the Alarm Scanner, the capability for alarm acknowledgement, and the capability of self-test. The Alarm Display can be connected to either an Alarm Scanner or a MAD.

#### A.4.3 Master Alarm Display (MAD)

The MAD (Figure A-18) provides the circuitry necessary to interface with up to 10 Alarm Scanners and display major alarm, any alarm, and alarm nonacknowledged status. The MAD, in conjunction with an Alarm Display, is also capable of displaying the alarm states of a selected Alarm Scanner. The MAD provides the 150 Baud ASCII interface to the modem.

#### A.5 MODEM

The Modem (Figure A-19) serves as a variable data rate multiplex interface between DATEC and AN/FRC-162 Transceiver. In the transmit direction, the 75 and 150 Bps DATA outputs are summed, frequency-shift key modulated, and translated to 7140 Hz for input to the supervisory orderwire channel of the AN/FRC-162. In receive direction, the orderwire channel output is translated to data rates and selectively filtered for DATEC input.

#### A.6 PATE SOFTWARE DESCRIPTION

The software package controlling the PATE is divided into system operating and application sets. The system operating set contains the program executive which schedules which and when each application task is to be performed. The application set contains the IQCS modules. The modules perform the appropriate calculations and analyses required for each function.

#### A.7 OTHER EQUIPMENT

The I/O devices used with DATEC are an ADDS Model 980 CRT Display and Keyboard. It provides 24 lines at 80 characters per line. It provides editing, tab, erase, and insert controls for both individual characters or entire lines. In addition, a General Electric TermiNet 1200B ASR consisting of a printer, keyboard, and paper tape reader/punch as shown in Figure A-20 is utilized to provide hard copy prints of the CRT display and to punch paper tape(s) as needed for inputting data into the DATEC.

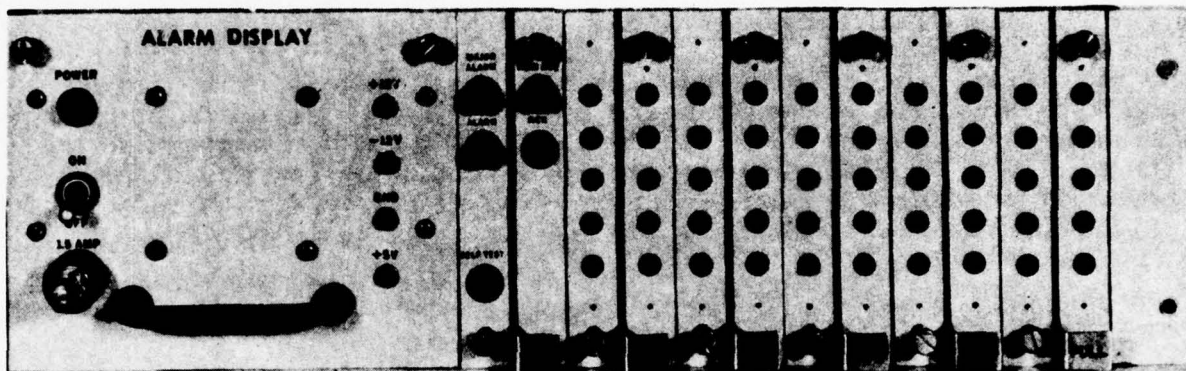


FIGURE A-17. ALARM DISPLAY

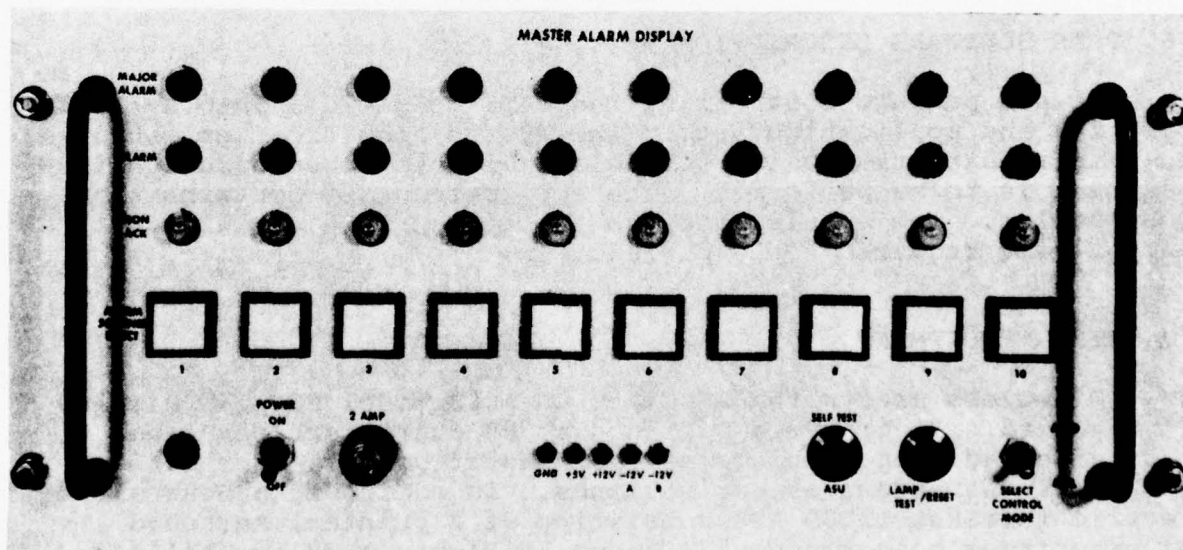


FIGURE A-18. MASTER ALARM DISPLAY

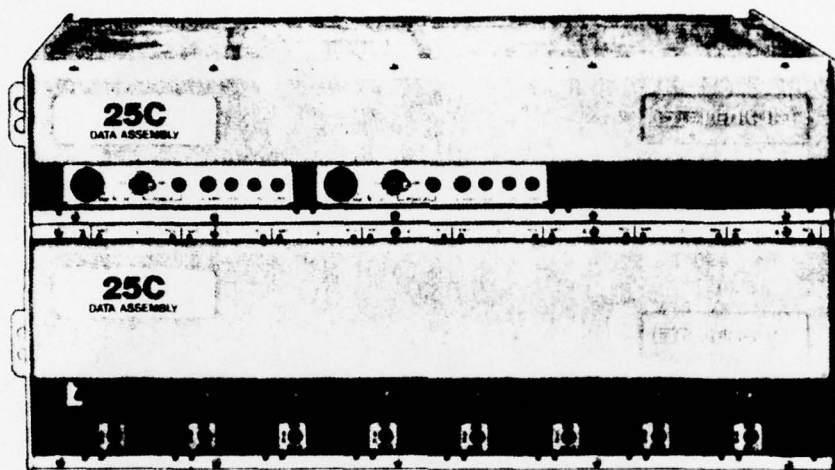


FIGURE A-19. DATA MODEM

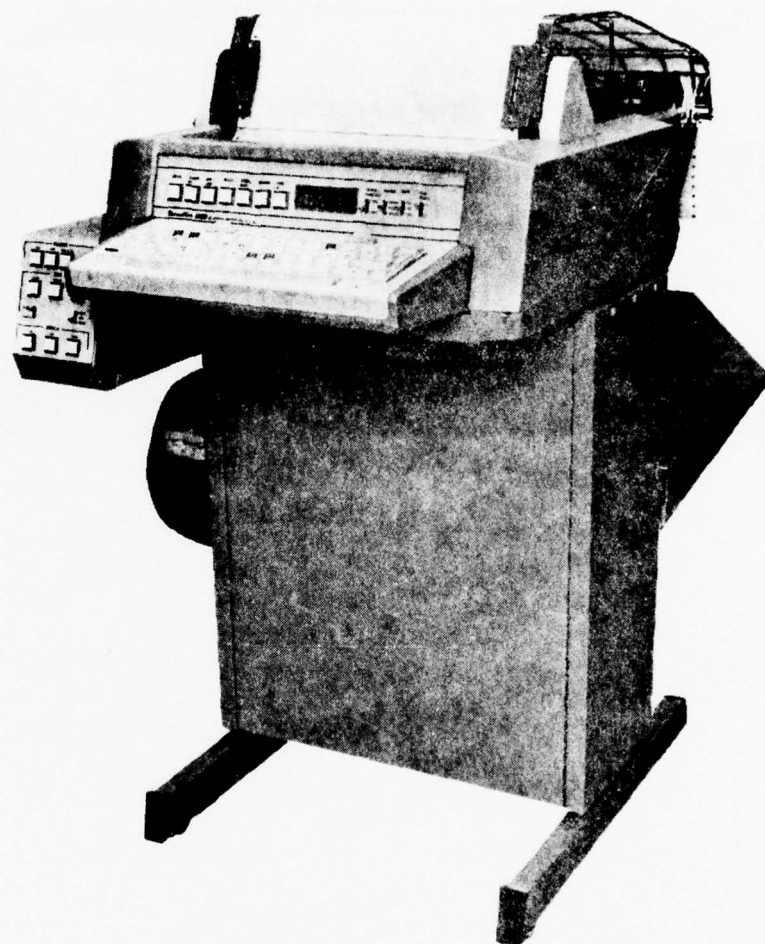


FIGURE A-20. TERMINET 1200 ASR

### A.7.1 Printer

The Keyboard Send Receive (KSR) Printer has a keyboard similar to a standard office typewriter. The printer can print and transmit information generated locally by the keyboard or paper tape reader. It can receive information from a remote device (e.g., computer or other communication device) utilizing ASCII. All of the 94 printable ASCII characters can be printed.

The Printer is equipped with the following features:

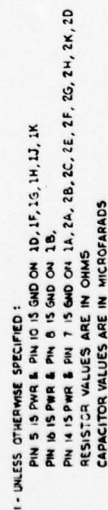
- a. Rate - switch selectable at 15 (LOW), 30 (MED), and 120 (HI) characters per second. For DATEC, the rate is set at HI (i.e., 1200 Baud).
- b. Horizontal Tabulation
- c. Vertical Format Unit (VFU)

### A.7.2 Pedestal

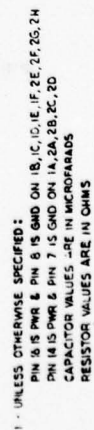
The pedestal provides a stable, compact support structure for the TerminiNet 1200B Printer and accessories. The paper tape reader and punch are mounted on the left side of the pedestal. The reader and punch power supply and control assembly are mounted within the pedestal and the Reader and Punch Control (R&PC) card is installed in the Printer. The photoelectric tape reader can read and send characters at any rate selected by the Printer "RATE" select switch. The solenoid driver, paper tape punch is capable of operating at a maximum of 30 characters per second with the rate determined by the Printer "RATE" select switch.

## A.8 BASEBAND EYE MONITOR (BEM) SCHEMATICS

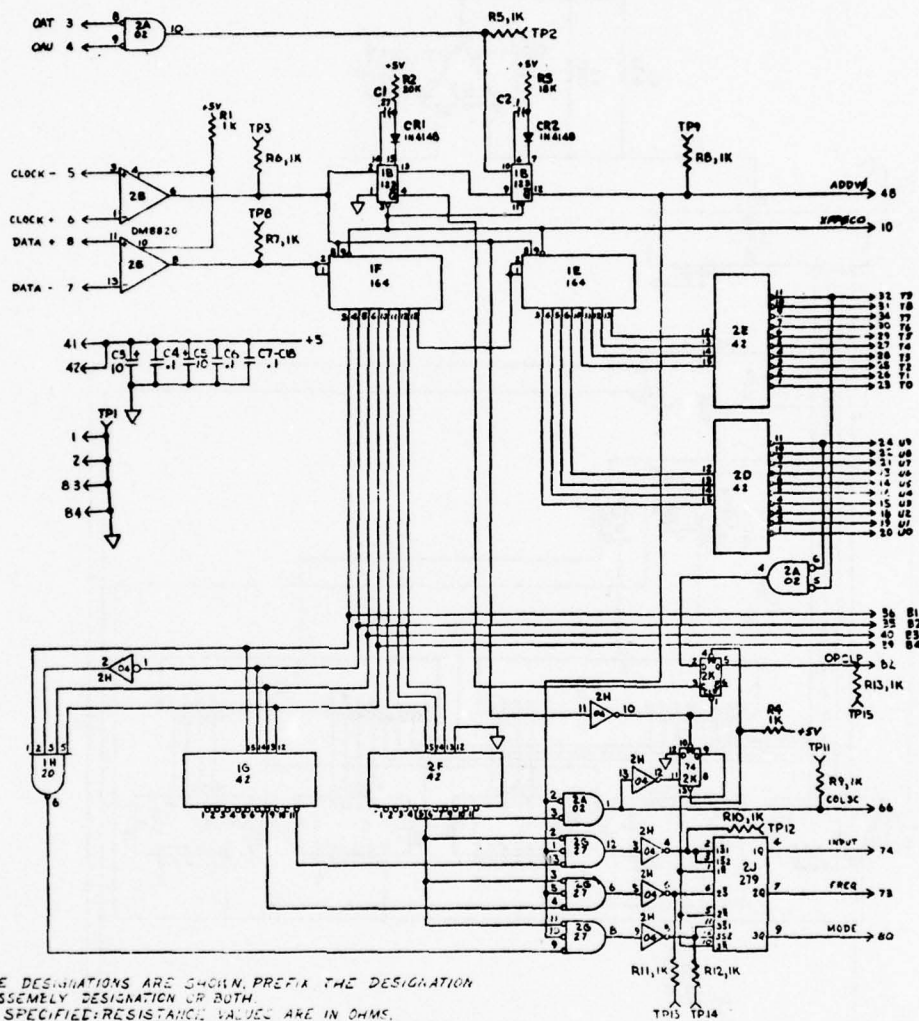
The 14 figures following present the detailed schematics of the BEM.



A-24



A-25



- 4-PARTIAL REFERENCE DESIGNATIONS ARE SHOWN. PREFIX THE DESIGNATION WITH UNIT NO. OR ASSEMBLY DESIGNATION OR BOTH.
- 3-UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS. CAPACITANCE VALUES ARE IN MICROFARADS.
- 2-REFERENCED INTEGRATED CIRCUIT PREFIXES ARE 5V4, UNLESS OTHERWISE SPECIFIED.
- 1- PIN 14 IS FWR & PIN 7 IS GND ON 1E, 1F, 1H, 2A, 2B, 2C, 2H, 2K; PIN 16 IS PAR B PIN 8 IS GND ON 1B, 1G, 2D, 2E, 2F, 2J.

FIGURE A-23. LOGIC DIAGRAM INTERFACE NO. 1 (A3)

[illegible]

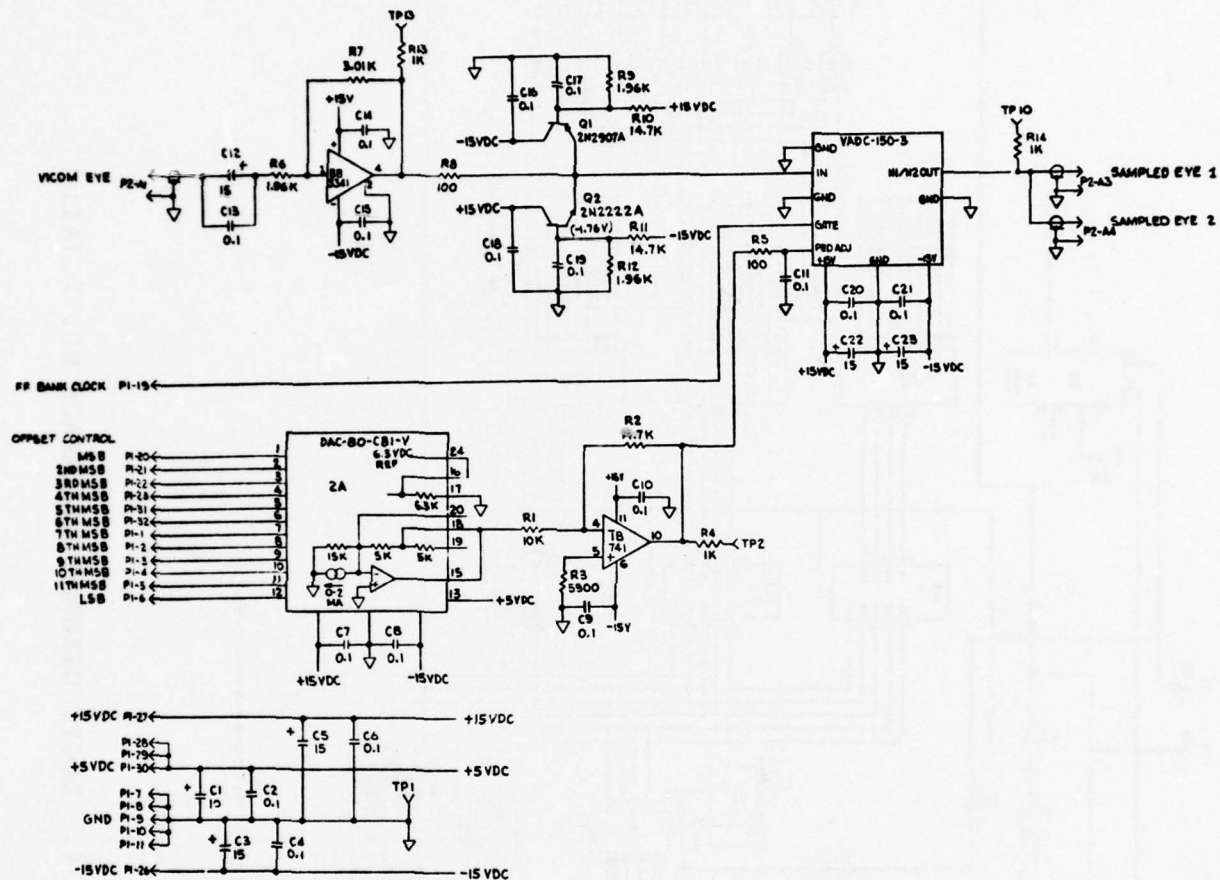
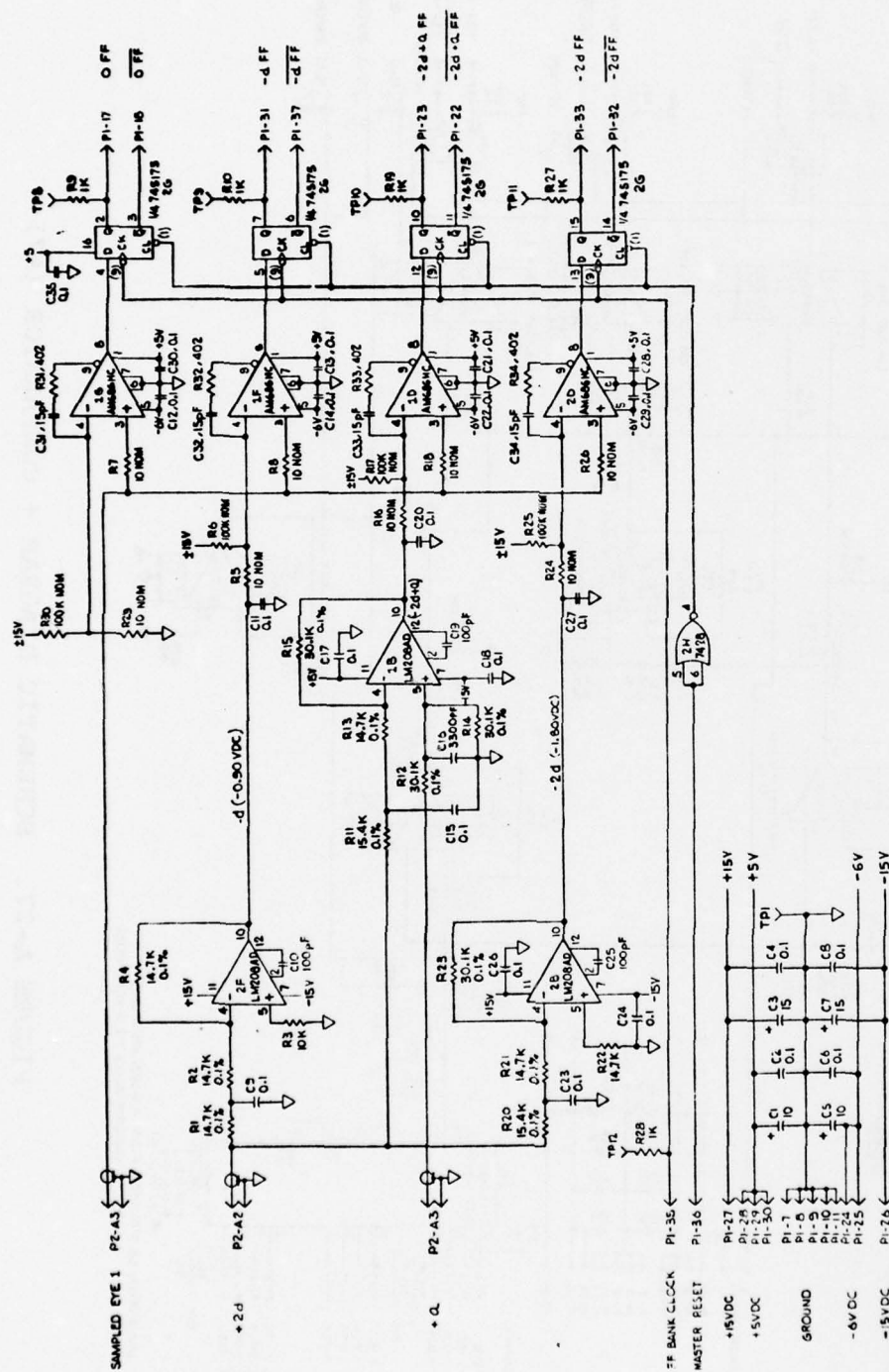
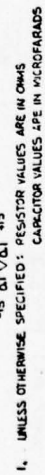


FIGURE A-25. SCHEMATIC DIAGRAM  
 SAMPLE AND HOLD (A5)



1- UNLESS OTHERWISE SPECIFIED:  
RESISTOR VALUES ARE IN OHMS  
CAPACITOR VALUES ARE IN MICROFARADS

FIGURE A-26. SCHEMATIC DIAGRAM - COMPARATOR (A6)



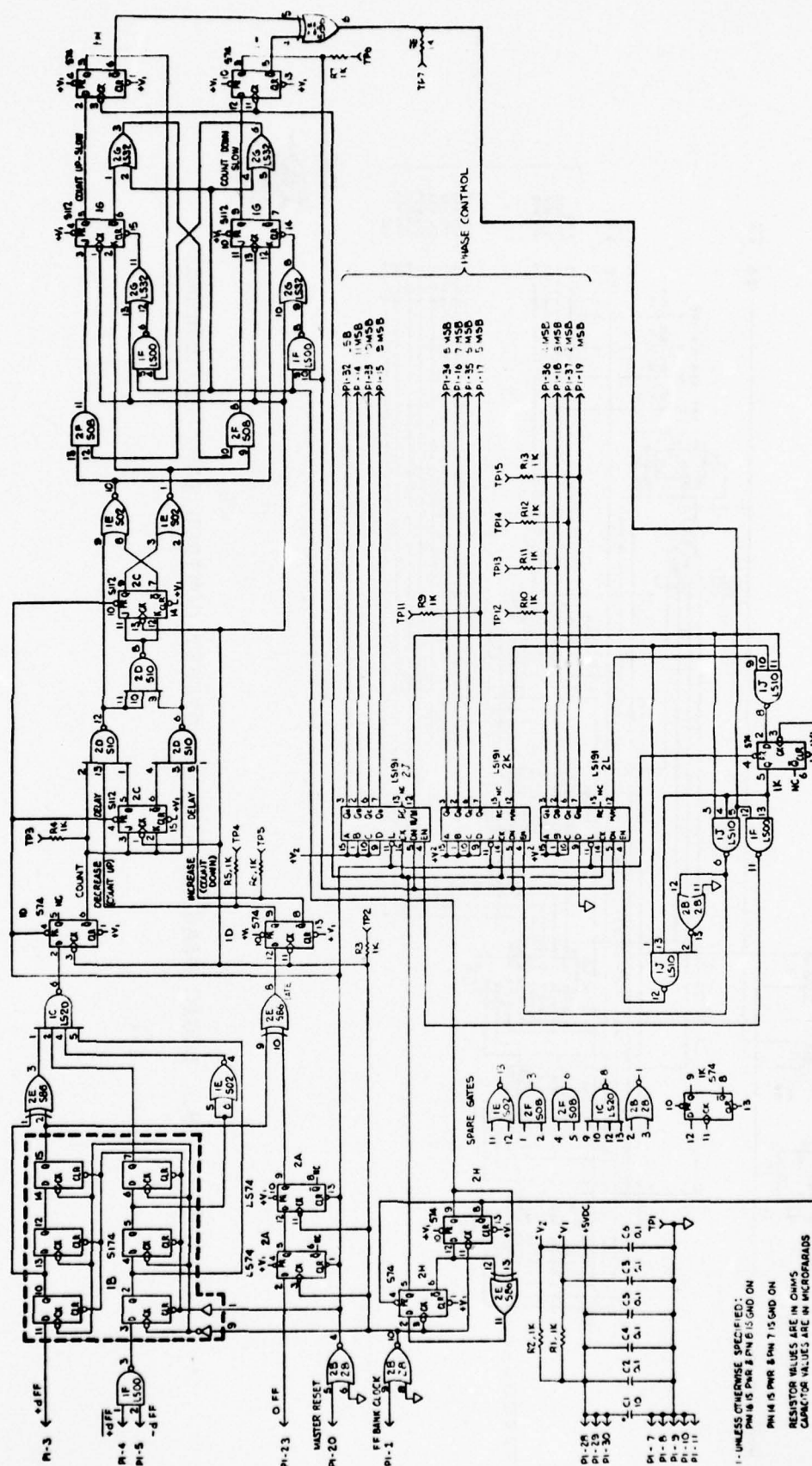
A-30



FIGURE A-28. LOGIC DIAGRAM a CONTROL (A8)



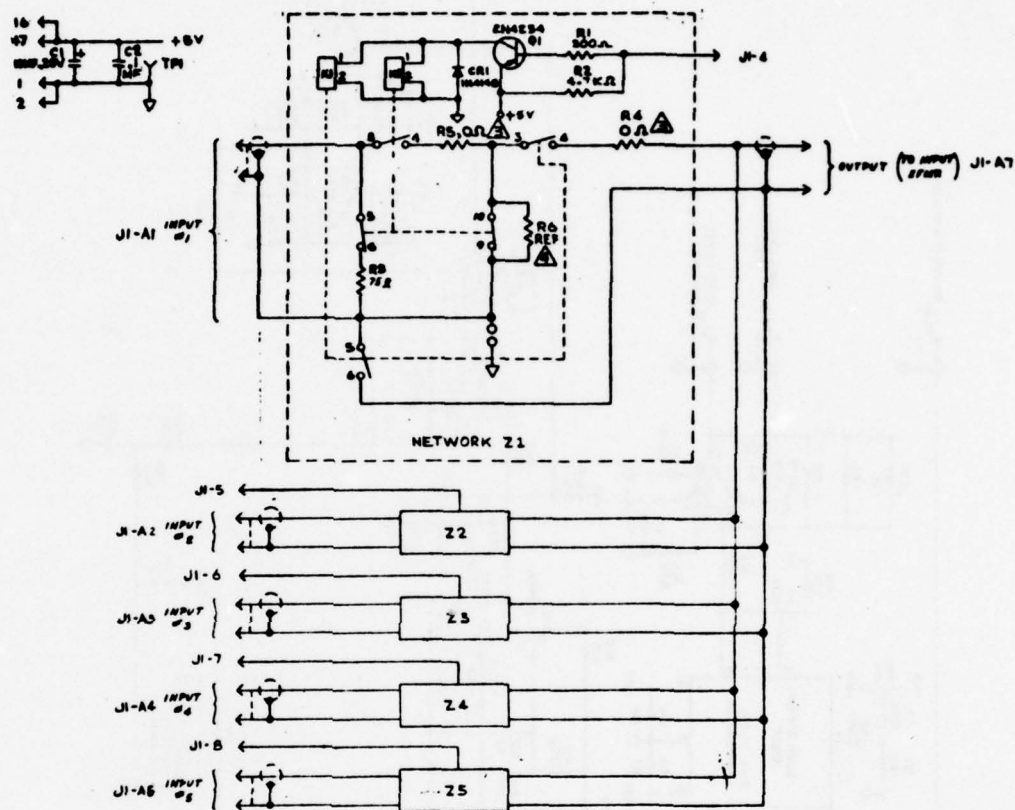




A-34

FIGURE A-30. LOGIC DIAGRAM PHASE LOCKED LOOP CONTROL (A10)





- △ - R6 NOT INSTALLED FOR TEST. RESISTOR VALUE TO BE DETERMINED PER CUSTOMER REQUIREMENTS DURING FIELD INSTALLATION
- △ - INSULATED HARDWARE OR ZERO OHM RESISTOR SHALL BE INSTALLED FOR TEST. RESISTOR VALUE TO BE DETERMINED PER CUSTOMER REQUIREMENTS DURING FIELD INSTALLATION
- 2 - PIN 7 IS GROUNDED ON K1 & PIN 13 IS GND ON K2
- 1 - PARTIAL REF DESIGNATIONS SHOWN - PREFIX WITH ASSY NO. OR UNIT NO OR BOTH

FIGURE A-32. SCHEMATIC DIAGRAM INPUT RELAY (A12/A13)



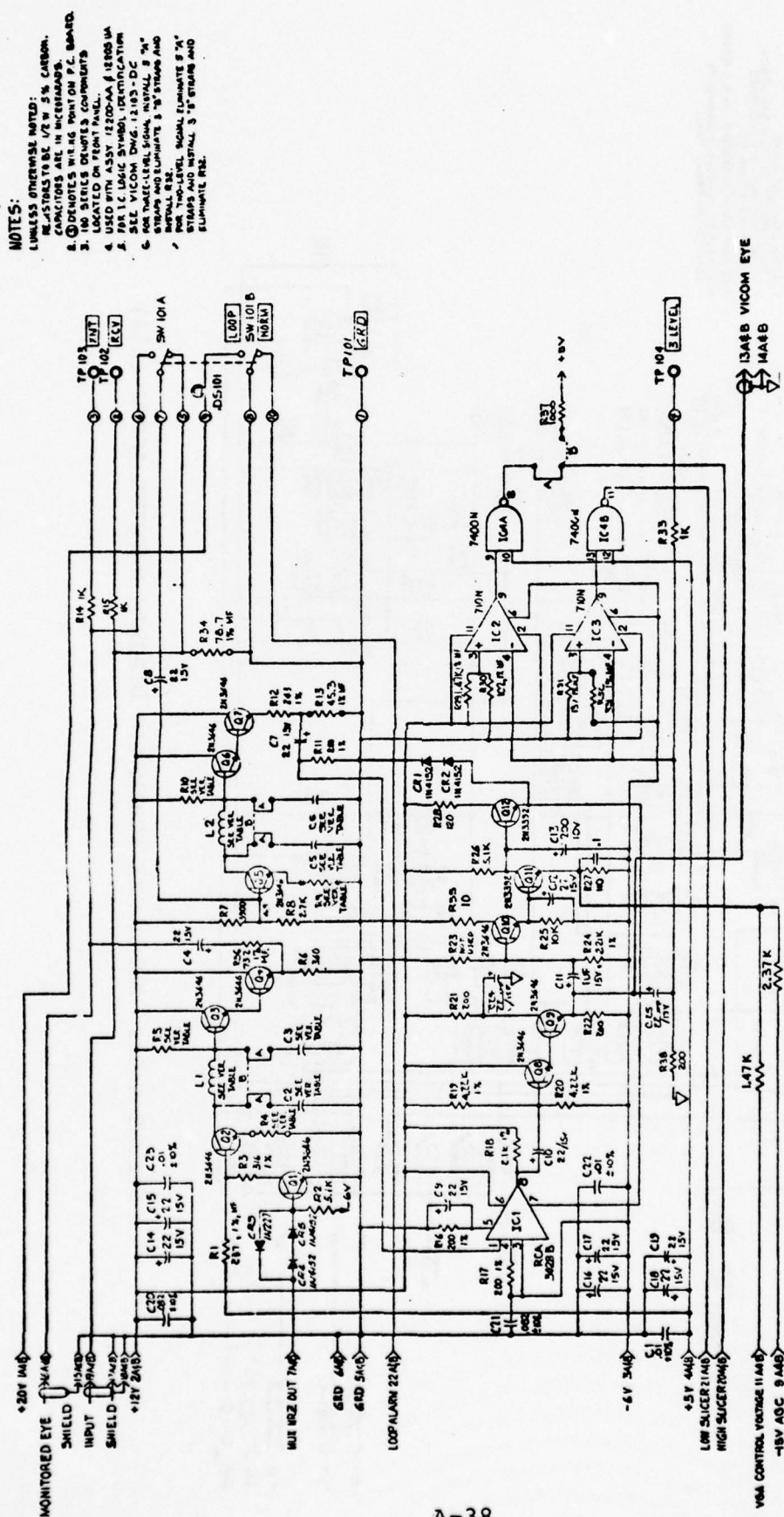


FIGURE A-34. MULTIPLEX SCHEMATIC DIAGRAM INTERFACE UNIT (A15)

#### A.9 EVENTS PER UNIT TIME (EPUT) SCHEMATICS

The three figures following present the detailed schematics of the EPUT.



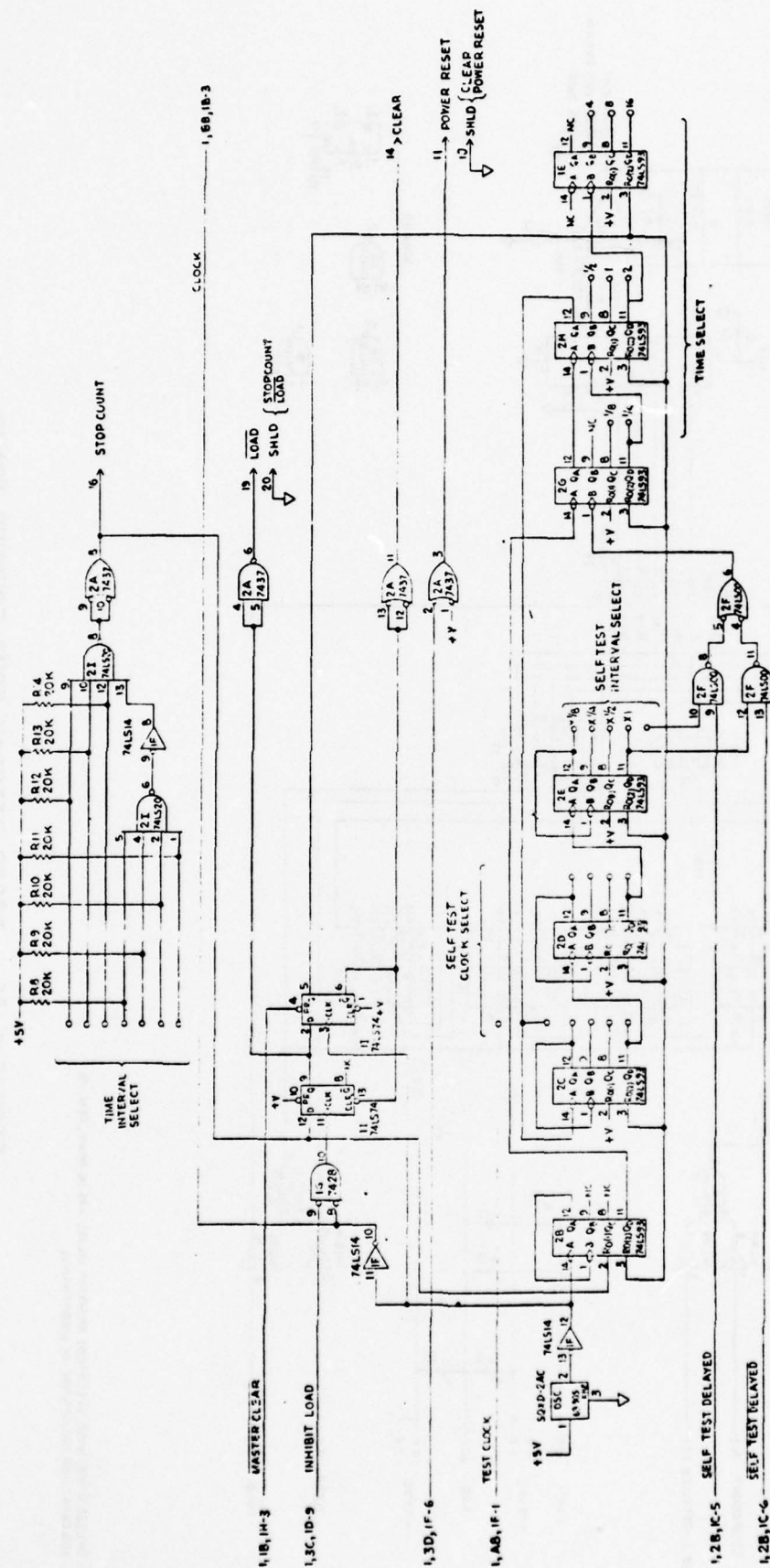


FIGURE A-35. LOGIC DIAGRAM EPUT COMMAND BOARD (Continued)

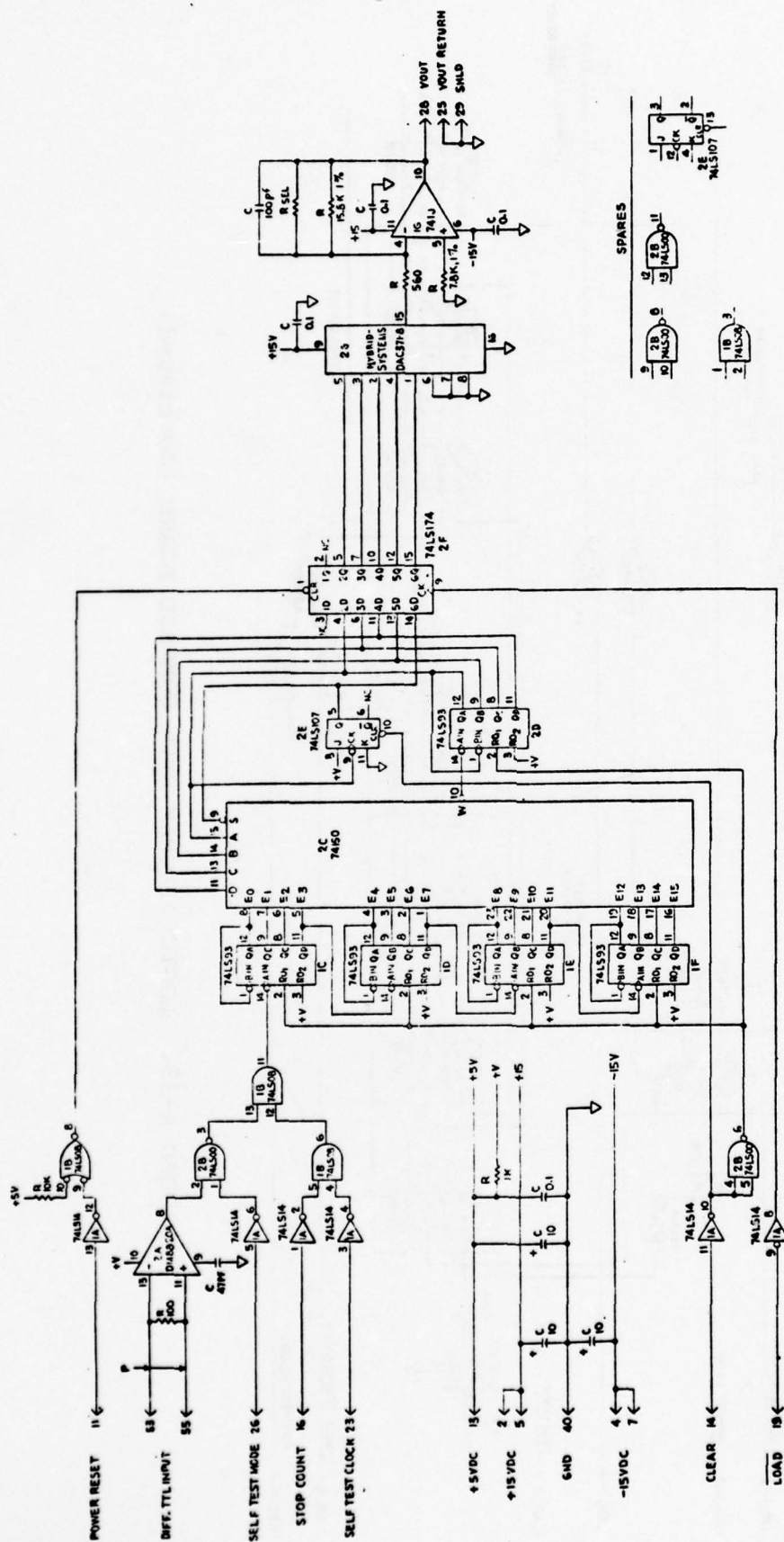


FIGURE A-36. LOGIC DIAGRAM EPUT COUNTER BOARD

1 - UNLESS OTHERWISE SPECIFIED: RESISTOR VALUES ARE IN OHMS, 1/8 W, 1% AND CAPACITOR VALUES ARE IN MICROFARADS

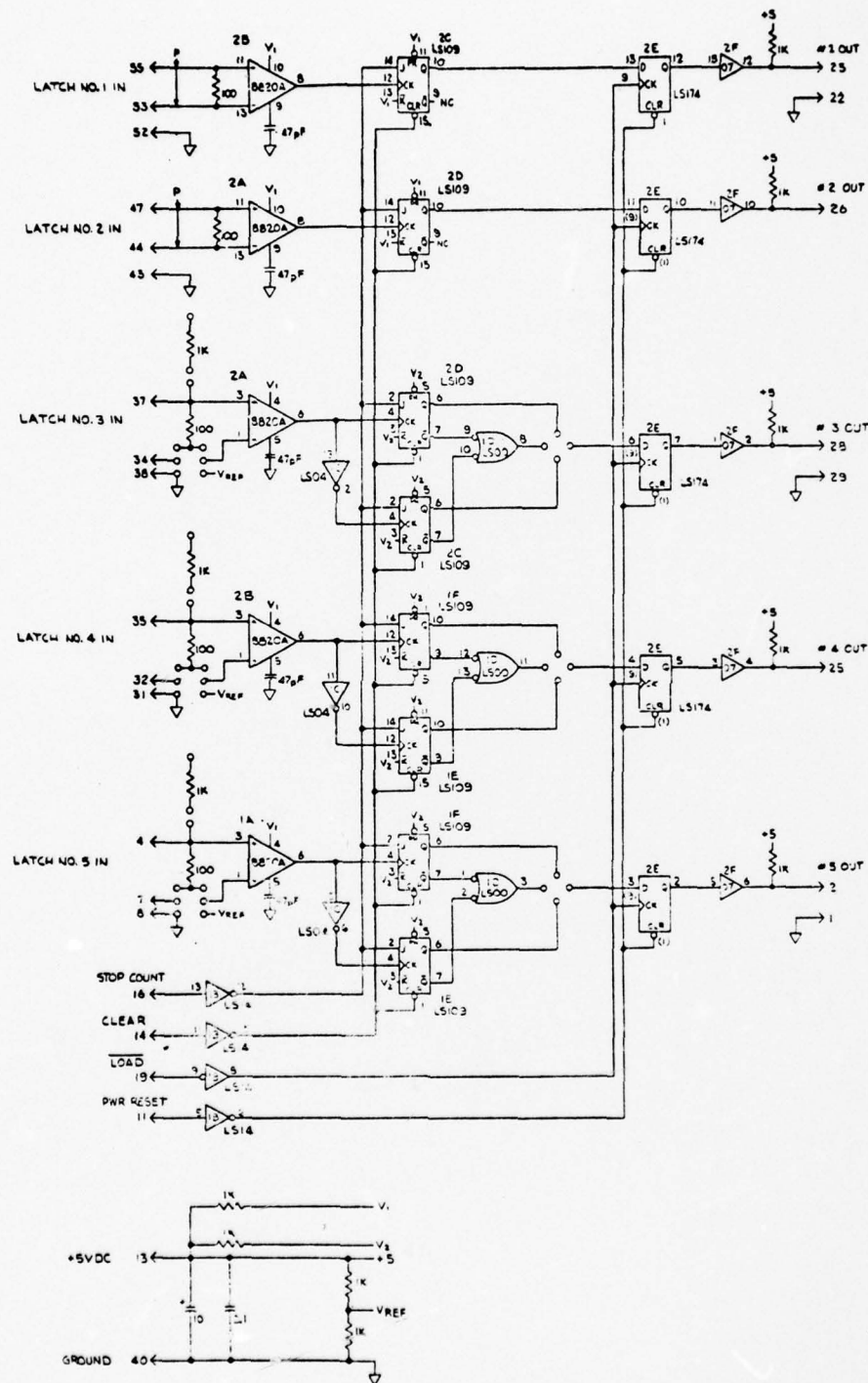


FIGURE A-37. LOGIC DIAGRAM EPUT LATCH BOARD

Appendix B

COMPUTER PROGRAM TO PRODUCE  
PERFORMANCE PREDICTION TABLES

```

TRUNK PROGRAM FOR ATEC BASEBAND EYE PATTERN MONITOR
  WRITTEN BY DR. W F ACKER, 16 MARCH 1977 REVISION
  COMPUTES TABLES FOR DETERMINING THE SIGNAL TO NOISE RATIO AND
  PREDICTING THE BIT ERROR RATE OF THE VICON 4000 FROM THE OUTPUTS
  OF THE ATEC ADAPTIVE-THRESHOLD BASEBAND EYE PATTERN MONITOR.

  NEEDS SUBROUTINES DN9LE, ADR9LE, AND TABLE
  NEEDS FUNCTIONS DFNRN, ONORR, AND ZNRORQ STORED IN A03000/NORMAL
  ASSUMES A PARTIAL RESPONSE EYE PATTERN WHICH WOULD NOMINALLY HAVE
  3 LEVELS BUT BECAUSE OF IMPROPER INTERSYMBOL INTERFERENCE BETWEEN
  ADJACENT BAUDS EACH NOMINAL LEVEL HAS AN EXTRA LEVEL A DISTANCE
  EPSILON ABOVE NOMINAL AND ANOTHER OFFSET BY EPSILON BELOW NOMINAL
  MAKING 9 TOTAL LEVELS.
  DEFINE "DHALF" TO BE HALF THE NOMINAL DISTANCE BETWEEN LEVELS
  DEFINE "EPSLN" TO BE EPSILON DEFINED ABOVE
  DEFINE "NOISE" TO BE THE RMS AMPLITUDE OF THE GAUSSIAN NOISE
  DEFINE "ADAPT" TO BE AN ADAPTIVELY CONTROLLED AMPLITUDE
  THE NINE DATA LEVELS ARE THEN
    ( *2DHALF * EPSLN ) . ( *2DHALF ) . ( *2DHALF - EPSLN )
    ( * ZERO * EPSLN ) . ( * ZERO ) . ( * ZERO - EPSLN )
    ( *2DHALF * EPSLN ) . ( *2DHALF ) . ( *2DHALF - EPSLN )

  THE ABOVE NINE-LEVEL SIGNAL IS FURTHER DEGRADED BY THE ADDITION
  OF GAUSSIAN NOISE. TO MEASURE THE RMS AMPLITUDE OF THIS NOISE
  (SO AS TO PROVIDE DATA FOR COMPUTING BAUD ERROR PROBABILITIES)
  VOLTAGE COMPARATORS, LOGIC, AND COUNTERS ARE USED TO MEASURE THE
  RELATIVE NUMBER OF BAUDS DETECTED WITHIN "PSEUDO ERROR" DETECTION
  AMPLITUDE RANGES PER TOTAL NUMBER OF BAUDS EXAMINED.
  FOR THIS SUBROUTINE IT IS ASSUMED THAT BAUDS WITH AMPLITUDES IN
  EITHER OF THE FOLLOWING RANGES WILL BE COUNTED AS PSEUDO ERRORS.
    FROM ( *DHALF ) TO ( *2DHALF - ADAPT )
    AND FROM ( -DHALF ) TO ( -2DHALF * ADAPT )
  THE OFFSET THRESHOLD AMPLITUDE "ADAPT" IS CONTINUALLY ADJUSTED BY
  A CLOSED LOOP CONTROL SYSTEM SO AS TO KEEP THE PSEUDO ERROR RATE
  EQUAL TO THE PRESET RATIO "PER" ( A SUBROUTINE INPUT VALUE ).
  THE AMPLITUDE OF THE PSEUDO ERROR THRESHOLD "ADAPT", IS THEN USED
  (WITH THE AID OF TOOLS SUCH AS THIS PROGRAM) FOR SIGNAL TO NOISE
  RATIO TREND ANALYSIS AND PREDICTION OF BIT ERROR RATE.

  EXTERNAL VARIABLES      ( NAMES ENDING IN "M" DESIGNATE ARRAYS )
  REAL BITRATE
  REAL PER
  REAL PERINVR
  REAL RDIVBAD
  REAL
  BY BEFORE THE A/D CONVERTER SETTING ADAPT.
  REAL BERMI72)
  INTEGER NBR
  REAL AIDRM(25)
  DECISION
  LEVEL RATIO = EPSLN / DHALF
  * NUMBER OF AIDRM VALUES = NUMBER
  * AIDRM(INVARIABLE) CONSTANT FOR AN
  * DECISION LEVEL TO NOISE RATIO =
  * RMS SIGNAL TO DHALF VOLTAGE RATIO
  * RMS NOISE TO TOTAL RMS SIGNAL R
  * SIGNAL TO NOISE RATIO IN DECIBEL
  * ADAPTIVE THRESHOLD TO D RATIO =
  * DERIVATIVE OF PER WITH RESPECT
  * ADAPTIVE THRESHOLD QUASILINEAR T

  INTERNAL VARIABLES
  REAL SCATCH(4,T

```

[illegible]



```

C *****
C
C LNTARGET = ALOG( PER )
E = AIDR * DNR
C
C MAKE FIRST GUESS, A, AT PROPER VALUE FOR ANR
A = E * ZNORMQ( 4., * PER )
A = ANINI( A., .98 * DNR )
D1 = 1. * DNR
D2 = 2. * DNR
D3 = 3. * DNR
D4 = 4. * DNR
C
C NRAPHSON = 0
ERROLD = 1200.
ERRNEW = 1100.
DOWHILE( ERRNEW .LT. ERROLD )
C
C IF( ERRNEW .LT. 1000. )
C
C THING =
C 1 * DFENORM( *A-E ) + 2.*DFENORM( *A ) + DFENORM( *A-E )
C 2 * DFENORM(D2-A-E) + 4.*DFENORM(D2-A) + 2.*DFENORM(D2-A-E)
C 3 * DFENORM(D4-A-E) + 2.*DFENORM(D4-A) + DFENORM( -A-E )
C
C DPERDANR = -THING / 8.
C DLNPERDA = DPERDANR / PERNEW
C ANROLD = A
C
C IF( ERRLNPER .LE. -0.5 * LNTARGET )
C
C NOTICE (-0.5 * LNTARGET) IS POSITIVE.
C IF( ERRLNPER .LE. -0.5 * LNTARGET )
C
C A = A - ERRLNPER / DLNPERDA
C
C ELSE
C
C USE LIMITED CORRECTION TO
C REDUCE OVERSHOOT TENDENCY
C
C LNPENNEW = ERRLNPER * LNTARGET
C A = A - LNPENNEW / DLNPERDA
C
C ENDIF
C NRAPHSON = NRAPHSON + 1
C FNDIF
C
C NEWTON RAPHSON CORRECTION, IF ANY, COMPLETED
C NOW EVALUATE THE RESIDUAL ERROR
C
C THING =
C 1 * QNORM( *A-E ) + 2. * QNORM( A ) + QNORM( A-E )
C 2 * QNORM(D1 -E) + 2. * QNORM(D1 ) + QNORM(D1 -E)
C 3 * QNORM(D2-A-E) - 4. * QNORM(D2-A) - 2. * QNORM(D2-A-E)
C 4 * QNORM(D3 -E) + 2. * QNORM(D3 ) + QNORM(D3 -E)
C 5 * QNORM(D4-A-E) - 2. * QNORM(D4-A) -
C
C PERNEW = THING / 8.
C FRLNPER = ALOG( PERNEW / PER )
C ERROLD = ERRNEW
C ERRNEW = ABS( FRLNPER )
C IF( DFBUG) PRINT, "NRAPHSON =" , NRAPHSON, " NATURAL LOG " ,
C "DPERNEW/PERTARGET =" , FRLNPER
C
C 1 ENDO
C
C ADR = ANROLD / DNR
C DPERDADR = DPERDANR * DNR
C RETURN
C

```

```

C      SUBROUTINE DNR9L(BER,AIDR,DNR)
C      ( DATA-NOISE RATIO FOR NINE-LEVEL EYE )
C      DETERMINES DATA-NOISE RATIO (DNR) REQUIRED TO PRODUCE SPECIFIED
C      BIT ERROR RATE (BER) FOR THREE LEVEL PARTIAL RESPONSE EYE PATTERN
C      WITH INTERSYMBOL INTERFERENCE (OF AMPLITUDE AIDR) DISTORTING THE
C      THREE-LEVEL EYE INTO A NINE-LEVEL EYE
C      NEEDS DFNRN, DNORM, AND ZNORMQ (IN "NORMAL" FILE)
C      -- INPUT VARIABLES --
C      REAL BER
C      REAL AIDR
C      WHERE 2D = NOMINAL DISTANCE BETWEEN LEVELS
C      -- OUTPUT --
C      REAL DNR
C      -- INTERNAL VARIABLES
C      LOGICAL DEBUG/F/
C      INTEGER NRAPHSON
C      REAL DNRNEW
C      REAL DNROLD
C      REAL BERNEW
C      REAL ERBER
C      REAL ERNEW
C      REAL ERROLD
C      REAL DRVBER
C      DNRNEW = ZNORMQ(BER/1.5) / (1. - AIDR)
C      IMPROVE FIRST APPROXIMATION OF
C      DNR BY NEWTON-RAPHSON ITERATION
C      ERROR TERMS SCALED BY 1.E+10 TO AVOID UNDERFLOW
C      ERROLD = 10.E+10
C      ERNEW = 2.E+10
C      NRAPHSON = 0
C      DO WHILE ( ERNEW .LT. ERROLD )
C      IF( NRAPHSON .GT.0 )
C      1      DRVBER = -/
C      2      .6. * DFNRN( DNRNEW * (1.-AIDR) ) * (1.-AIDR)
C      3      .12. * DFNRN( DNRNEW )
C      .6. * DFNRN( DNRNEW * (1.-AIDR) ) * (1.-AIDR) ) / 16.
C      DNROLD = DNRNEW
C      DNRNEW = (DNRNEW*1.E+10 - ERBER/DRVBER) * 1.E-10
C      ENDTIF
C      BERNEW = (
C      .6. * DNORM( DNRNEW * (1.-AIDR) )
C      .12. * DNORM( DNRNEW )
C      .6. * DNORM( DNRNEW * (1.-AIDR) ) ) / 16.
C      FRBER = BERNEW * 1.E+10 - BER * 1.E+10
C      IF( NRAPHSON .GT.0 )
C      ERROLD = ERNEW
C      ERNEW = ABS(ERBER)
C      ENDTIF
C      IF(DEBUG)PRINT,"NRAPHSON =",NRAPHSON,"ERR BER *1.E+10 =",ERBER
C      NRAPHSON = NRAPHSON + 1
C      ENDO
C      DNR = DNROLD
C      RETURN
C      FND

```



# PRINT HEADINGS

```
WRITE (6,1)
WRITE (6,2)
WRITE (6,3)
WRITE (6,4) AIDR
WRITE (6,5) PERINVR
WRITE (6,7)
WRITE (6,8)
WRITE (6,9)
FORMAT (1H0)
```

## PRINT ROWS OF DATA

```
ILINE = 0
LASTROW = MIN( NROW+36, NBR )
DOWHILE( NROW .LT. LASTROW )
  NROW = NROW + 1
```

```
WRITE (6,10) BERM (NROW), NSRM(NROW), SYRM(NROW), ADRM(NROW),
  OPERADM(NROW), TMCNSTH(NROW)
  DOUBLF SPACE IF NUMBER OF DATA ROWS .LE. 15
```

```
IF (NBER .LE. 15)
  WRITE (6,11)
  ILINE = ILINE + 2
  FLSE
  ILINE = ILINE + 1
  ENDIF
  ENDO
```

```
ALL DATA PRINTS - MAKE RESIDUAL ROWS BLANK
NLINE = 39 - ILINE
DOWHILE (NLINE .GT. 0)
  WRITE (6,11)
  NLINE = NLINE - 1
  ENDO
```

## WRITE FOOTNOTES

```
WRITE (6,12)
WRITE (6,13)
WRITE (6,19)
WRITE (6,14)
WRITE (6,15)
WRITE (6,16)
WRITE (6,17)
WRITE (6,18) BITRATE, RDIVRAD
```

```
ENDQ
RETURN
END
```

-----END-OF-THIS-ROL INE-----

THERE WERE NO ERRORS IN THE ABOVE ROUTINE DETECTED BY THE SP PRECOMPILER

```
*****
*
* PREFORTY NOW PROCESSES THE "INCLUDE" STATEMENT, SO THAT
* COMMON STATEMENTS CAN BE WRITTEN ONCE PUT AT THE BEGINNING
* OF THE SOURCE INPUT, AND THEN INCLUDED IN SPECIFIC ROUTINES.
*
* ALSO, COMMENTS PRECEDED BY !* ARE MOVED OUT TO COLUMN 40.
*
* TWO ADDITIONAL SP STATEMENTS HAVE BEEN MECHANIZED. THEY ARE
* DELETE AND EXITQ.
*
*****
```

\* LIST A01739/FORTY/INFO.R FOR DETAILS. \*

TRUNK PROGRAM FOR ATFC BASEBAND EYE PATTERN MONITOR

```

1  C  TRUNK PROGRAM FOR ATFC BASEBAND EYE PATTERN MONITOR
2  C  WRITTEN BY DR. W F ACKER, 16 MARCH 1977 REVISION
3  C  COMPUTES TABLES FOR DETERMINING THE SIGNAL TO NOISE RATIO AND
4  C  PREDICTING THE BIT ERROR RATE OF THE VICON 4000 FROM THE OUTPUTS
5  C  OF THE ATFC ADAPTIVE-THRESHOLD BASEBAND EYE PATTERN MONITOR.
6  C
7  C  NFEDS SUBROUTINES DNL9LE, ADR9LE, AND TABLE
8  C  NEEDS FUNCTIONS DFNORM, ONORM, AND ZNORM STORED IN A03000/NORMAL
9  C
10 C  ASSUMES A PARTIAL RESPONSE EYE PATTERN WHICH WOULD NOMINALLY HAVE
11 C  3 LEVELS BUT BECAUSE OF IMPROPER INTERSYMBOL INTERFERENCE BETWEEN
12 C  ADJACENT BAUDS EACH NOMINAL LEVEL HAS AN EXTRA LEVEL A DISTANCE
13 C  EPSILON ABOVE NOMINAL AND ANOTHER OFFSET BY EPSILON BELOW NOMINAL
14 C  MAKING 9 TOTAL LEVELS.
15 C  DEFINE "DHALF" TO BE HALF THE NOMINAL DISTANCE BETWEEN LEVELS
16 C  DEFINE "EPSLN" TO BE EPSILON DEFINED ABOVE
17 C  DEFINE "NOISE" TO BE THE RMS AMPLITUDE OF THE GAUSSIAN NOISE
18 C  DEFINE "ADAPT" TO BE AN ADAPTIVELY CONTROLLED AMPLITUDE
19 C  THE NINE DATA LEVELS ARE THEN
20 C  ( +2*DHALF + EPSLN ), ( +2*DHALF ), ( +2*DHALF - EPSLN )
21 C  ( ZERO + EPSLN ), ( ZERO ), ( ZERO - EPSLN )
22 C  ( -2*DHALF + EPSLN ), ( -2*DHALF ), ( -2*DHALF - EPSLN )
23 C
24 C  THE ABOVE NINE-LEVEL SIGNAL IS FURTHER DEGRADED BY THE ADDITION
25 C  OF GAUSSIAN NOISE. TO MEASURE THE RMS AMPLITUDE OF THIS NOISE
26 C  (50 AS TO PROVIDE DATA FOR COMPUTING BAUD ERROR PROBABILITIES),
27 C  VOLTAGE COMPARATORS, LOGIC, AND COUNTERS ARE USED TO MEASURE THE
28 C  RELATIVE NUMBER OF BAUDS DETECTED WITHIN "PSEUDO ERROR" DETECTION
29 C  AMPLITUDE RANGES PER TOTAL NUMBER OF BAUDS EXAMINED.
30 C  FOR THIS SUBROUTINE IT IS ASSUMED THAT BAUDS WITH AMPLITUDES IN
31 C  EITHER OF THE FOLLOWING RANGES WILL BE COUNTED AS PSEUDO ERRORS.
32 C  FROM ( +DHALF ) TO ( +2*DHALF - ADAPT )
33 C  AND FROM ( -DHALF ) TO ( -2*DHALF + ADAPT )
34 C  THE OFFSET THRESHOLD AMPLITUDE "ADAPT" IS CONTINUALLY ADJUSTED BY
35 C  A CLOSED LOOP CONTROL SYSTEM SO AS TO KEEP THE PSEUDO ERROR RATE
36 C  EQUAL TO THE PRESET RATIO "PER" ( A SUBROUTINE INPUT VALUE ).
37 C  THE AMPLITUDE OF THE PSEUDO ERROR THRESHOLD, "ADAPT", IS THEN USED
38 C  (WITH THE AID OF TOOLS SUCH AS THIS PROGRAM) FOR SIGNAL TO NOISE
39 C  RATIO TREND ANALYSIS AND PREDICTION OF BIT ERROR RATE.
40 C
41 C  -- EXTERNAL VARIABLES ( NAMES ENDING IN "M" DESIGNATE ARRAYS )
42 C
43 C  REAL BITRATE !* BIT RATE
44 C  REAL PER !* PSEUDO BIT ERRORS / BITS TRANSMITTED
45 C  REAL PERINVR !* BITS TRANSMITTED / PSEUDO ERRORS
46 C  REAL RDIVBAD !* NUMBER THAT NET PSEUDO ERRORS ARE DIVIDED
47 C  REAL BERM(72) !* BY BEFORE THE A/D CONVERTER SETTING ADAPT.
48 C  INTEGER NBER !* BIT ERRORS PER BIT TRANSMITTED RATIO
49 C  REAL AIDRM(25) !* NUMBER OF BERM VALUES = NBR ROWS PER TABLE
50 C  INTEGER NAIDR !* AMPLITUDE INTERSYMBOL INTERFERENCE TO
51 C  !* DECISION LEVEL RATIO = EPSLN / DHALF
52 C  !* NUMBER OF AIDRM VALUES = NUMBER OF TABLES

```

```

53 REAL AIDR      !* = AIDRM(NTABLE) CONSTANT FOR ANY ONE TABLE
54 REAL DNR      !* DECISION LEVEL TO NOISE RATIO= DHALF/NOISE
55 REAL SDNR     !* RMS SIGNAL TO DHALF VOLTAGE RATIO
56 REAL NSRM(72) !* RMS NOISE TO TOTAL RMS SIGNAL RATIO
57 REAL SNRM(72) !* SIGNAL TO NOISE RATIO IN DECIBELS
58 REAL ADM(72)  !* ADAPTIVE THRESHOLD TO D RATIO= ADAPT/DHALF
59 REAL DPERDADM(72) !* DERIVATIVE OF PER WITH RESPECT TO ADM
60 REAL TMCNSTM(72) !* ADAPTIVE THRESHOLD QUASILINEAR TIME CNST
61
62 C -- INTERNAL VARIABLES
63 C
64 REAL SCRATCH,T !* SCRATCH PADS FOR TEMPORARY STORAGE
65 INTEGER NROW   !* INDEX REGISTER FOR NUMBER OF ROWS
66 INTEGER NTABLE !* INDEX REGISTER FOR NUMBER OF TABLES
67 LOGICAL DEBUG/T/ !* FOR DIAGNOSTIC PRINTOUT SET DEBUG = TRUE
68 FORMAT(3X,E11.3,F11.6,3X,F8.2,3(F11.6),/)
69 FORMAT (1H1,"TRUNK IS IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.")
70 C #####
71 C #####
72 C #####
73 C #####
74 C #####
75 C #####
76 C #####
77 C #####
78 C #####
79 C #####
80 C #####
81 C #####
82 C #####
83 C #####
84 C #####
85 C #####
86 C #####
87 C #####
88 C #####
89 C #####
90 C #####
91 C #####
92 C #####
93 C #####
94 C #####
95 C #####
96 C #####
97 C #####
98 C #####
99 C #####
100 C #####
101 C #####
102 C #####
103 C #####
104 C #####

READ INPUT DATA

READ. BITRATE
READ. PERINVR
PER = 1. / PERINVR
READ. RDIVBAD

NBER = 0
READ. SCRATCH
DOWHILE( SCRATCH .LT. 99. )
GO TO 9001
CONTINUE
NBER = NBER + 1
PERM(NBER) = SCRATCH
READ. SCRATCH
IF( SCRATCH .LT. 99. ) GO TO 9002
END0

NAIDR = 0
READ. SCRATCH
DOWHILE( SCRATCH .LT. 99. )
GO TO 9003
CONTINUE
NAIDR = NAIDR + 1
AIDRM(NAIDR) = SCRATCH
READ. SCRATCH
IF( SCRATCH .LT. 99. ) GO TO 9004
END0

NTABLE = 1
DOWHILE( NTABLE .LE. NAIDR )
GO TO 9005

```

COMPUTE VALUES. STORE. PRINT TABLES

```

105          9006          CONTINUE
106          C
107              BEGIN A NEW TABLE
108              ADR = ADRM(NTABLE)
109              SDNR = SORT(2, (1, ADR*ADR/4,))
110              NROW = 1
111              DO WHILE( NROW .LE. NBER )
112                  GO TO 9007
113              CONTINUE
114              BEGIN A NEW R
115              IF (DEBUG) PRINT, "ADR =", ADR, " BER =", BER, " NROW"
116              CALL DNR9LF(BERM(NROW), ADR, DN )
117              NSRM(NROW) = 1. / (DNR * SDNR)
118              SNRM(NROW) = -20. * ALOG10( NSRM(NROW) )
119              CALL ADR9LE(ADR, DNR, PER, ADRM(NROW), T)
120              DPERDADM(NROW) = T
121              TMCNSTM(NROW) = - RDIVRAD * 4095 / (BITRATE * T )
122              "4095." FOR 4 5 BITS INTO A/D ACCUMULATOR
123              CHANGE THE A/ OUTPUT FROM ZERO TO DNALF.
124              IF (DEBUG) WRITE(6,1) BERM(NROW), NSRM(NROW), SNRM(NROW),
125              ADRM(NROW), DPERDADM(NROW), TM STM(NROW)
126              C
127              NROW = NROW + 1
128              IF ( NROW .LE. NBER ) GO TO 9008
129              ENDO
130              C
131              FINISHED STORING A TABLE
132              CALL TABLE (BERM,NBER,ADR,NSRM,SNRM,ADRM,DPERDADM,TMCNSTM,
133              PERINVR, BITRATE, RDIVRAD )
134              IF (DEBUG) WRITE (6,2)
135              C
136              STORAGE READY FOR A NEW TABLE
137              NTABLE = NTABLE + 1
138              IF ( NTABLE .LE. NAIDR ) GO TO 9006
139              ENDO
140              PRINT, "NORMAL END"
141              C
142              STOP
143              FND

```

SP052 02 08-10-77 01.190 TRUNK PROGRAM FOR ATEC BASEBAND EYE PATTERN MONITOR

LABEL ..... PAGE 4

EDIT DATE 02-19-75 \*SR 2/H

	ELAPSED TIME (SEC)	LINES/ MINUTE
OVERHEAD	.08	
PHASE 1	.10	84283
PHASE 2	.00	
PHASE 4	.07	113343
PHASE 5	.17	47666
TOTAL	.43	19281

THERE WERE NO DIAGNOSTICS IN ABOVE COMPILATION  
26K WORDS WERE USED FOR THIS COMPILATION

```

1 SUBROUTINE ADR9LE (AIDR,DNR,PER,ADR,DPERDADR)
2
3 ( FINDS ADR FOR NINE-LEVEL EYE ) MOD 20/SEPT/76 W F ACKER
4 ASSUMES A PARTIAL RESPONSE EYE PATTERN WHICH WOULD NOMINALLY HAVE
5 3 LEVELS BUT BECAUSE OF IMPROPER INTERSYMBOL INTERFERENCE BETWEEN
6 ADJACENT BAUDS EACH NOMINAL LEVEL HAS AN EXTRA LEVEL A DISTANCE
7 EPSILON ABOVE NOMINAL AND ANOTHER OFFSET BY EPSILON BELOW NOMINAL
8 MAKING 9 TOTAL LEVELS.
9
10 DEFINE "DHALF" TO BE HALF THE NOMINAL DISTANCE BETWEEN LEVELS
11 DEFINE "EPSLN" TO BE EPSILON DEFINED ABOVE
12 DEFINE "NOISE" TO BE THE RMS AMPLITUDE OF THE GAUSSIAN NOISE
13 DEFINE "ADAPT" TO BE AN ADAPTIVELY CONTROLLED AMPLITUDE
14
15 THE NINE DATA LEVELS ARE THEN
16 ( +2*DHALF + EPSLN ), ( +2*DHALF ), ( +2*DHALF - EPSLN )
17 ( ZERO + EPSLN ), ( ZERO ), ( ZERO - EPSLN )
18 ( -2*DHALF + EPSLN ), ( -2*DHALF ), ( -2*DHALF - EPSLN )
19
20 THE ABOVE NINE-LEVEL SIGNAL IS FURTHER DEGRADED BY THE ADDITION
21 OF GAUSSIAN NOISE. TO MEASURE THE RMS AMPLITUDE OF THIS NOISE
22 (SO AS TO PROVIDE DATA FOR COMPUTING BAUD ERROR PROBABILITIES),
23 VOLTAGE COMPARATORS, LOGIC, AND COUNTERS ARE USED TO MEASURE THE
24 RELATIVE NUMBER OF BAUDS DETECTED WITHIN "PSEUDO ERROR" DETECTION
25 AMPLITUDE RANGES PER TOTAL NUMBER OF BAUDS EXAMINED.
26 FOR THIS SUBROUTINE IT IS ASSUMED THAT BAUDS WITH AMPLITUDES IN
27 EITHER OF THE FOLLOWING RANGES WILL BE COUNTED AS PSEUDO ERRORS.
28 FROM ( +DHALF ) TO ( +2*DHALF - ADAPT )
29 AND FROM ( -DHALF ) TO ( -2*DHALF + ADAPT )
30
31 THE OFFSET THRESHOLD AMPLITUDE "ADAPT" IS CONTINUALLY ADJUSTED BY
32 A CLOSED LOOP CONTROL SYSTEM SO AS TO KEEP THE PSEUDO ERROR RATE
33 EQUAL TO THE PRESET RATIO "PER" ( A SUBROUTINE INPUT VALUE ).
34 THE AMPLITUDE OF THE PSEUDO ERROR THRESHOLD, "ADAPT", IS THEN USED
35 (WITH THE AID OF TOOLS SUCH AS THIS PROGRAM) FOR TREND ANALYSIS
36 AND PREDICTION OF BAUD ERROR RATE ("BER" IN SUBROUTINE DNR9LE)
37
38 INPUT VARIABLES
39
40 REAL AIDR !* AMPLITUDE INTERSYMBOL INTERFERENCE TO DATA
41 REAL DNR !* DATA TO NOISE RATIO = (DHALF) / NOISE
42 REAL PER !* RATIO, EPSLN / DHALF
43 REAL PER !* VALUE OF PRESET PSEUDO ERROR RATE
44
45 OUTPUT VARIABLES
46
47 REAL ADR !* ADAPTIVE THRESHOLD TO "D" RATIO= ADAPT/DHALF
48 REAL DPERDADR !* DERIVATIVE OF "PER" WITH RESPECT TO "ADR"
49
50 INTERNAL VARIABLES
51
52 LOGICAL DEBUG/F/ !* FOR DIAGNOSTIC PRINTOUT SET DEBUG = TRUE
53 INTEGER NRAPHSON !* COUNTS NEWTON-RAPHSON ITERATIONS
54 REAL A !* NEWEST GUESS FOR VALUE OF ("ADAPT"/"NOISE")

```

```

53      REAL ANROLD
54      REAL D1,D2,D3,D4
55      REAL E
56      REAL PERNEW
57      REAL DPERDANR
58      REAL LNTARGET
59      REAL LNPERNEW
60      REAL ERLNPER
61      REAL ERNEW
62      REAL EROLD
63      REAL THING
64      REAL DLNPERDA
65
66      C#####
67      C
68      C
69      C
70      C
71      C
72      C
73      C
74      C
75      C
76      C
77      C
78      C
79      C
80      C
81      C
82      C
83      C
84      C
85      C
86      C
87      C
88      C
89      C
90      C
91      C
92      C
93      C
94      C
95      C
96      C
97      C
98      C
99      C
100      C
101      C
102      C
103      C
104      C

      TO ATTAIN THE SPECIFIED ERROR RATE
      1* PREVIOUS GUESS FOR "ANR", THAT IS OLD "A".
      1* INTEGER MULTIPLES OF "DNR"
      1* "EPSLN"/"NOISE RATIO", THAT IS, (AIDR * DNR).
      1* PSEUDO ERROR COMPUTED USING NEWEST GUESS "A"
      1* DERIVATIVE OF "PER" WITH RESPECT TO "ANR"
      1* NATURAL LOG OF "PER" (THE TARGET VALUE)
      1* NATURAL LOG OF "LNPERNEW" (COMPUTED USING "A")
      1* LNPERNEW - LNTARGET, ERROR IN LOG PERNEW
      1* ABSOLUTE VALUE OF ERLNPER
      1* PREVIOUS VALUE ERNEW
      1* TEMPORARY STORAGE FOR SCRATCH PAD NUMBERS
      1* DERIVATIVE OF "LNPERNEW" WITH RSPT TO "ANR"

      LNTARGET = ALOG( PER )
      E = AIDR * DNR
      MAKE FIRST GUESS, A, AT PROPER VALUE FOR ANR
      A = E + ZNORMQ( 4, * PER ) 1* A=INVERSE OF 2*FIRST TERM PERNEW
      A = AMINI( A, .98*DNR )
      D1 = 1. * DNR
      D2 = 2. * DNR
      D3 = 3. * DNR
      D4 = 4. * DNR

      NRAPHSON = 0
      EROLD = 1200.
      ERNEW = 1100.
      DOWHILE( ERNEW .LT. EROLD )
      GO TO 9001
      CONTINUE

      9002
      IF(.NOT.( ERNEW .LT. 1000. ))GOTO 9003
      CORRECTION ONLY THE FIRST PASS
      THING =
      1  * DFNORM( +A-E ) + 2.*DFNORM( +A ) + DFNORM( +A-E)
      2  * 2.*DFNORM(D2-A-E) + 4.*DFNORM(D2-A) + 2.*DFNORM(D2-A-E)
      3  * DFNORM(D4-A-E) + 2.*DFNORM(D4-A) + DFNORM( -A-E)
      DPERDANR = -THING / 8.
      DLNPERDA = DPERDANR / PERNEW
      ANROLD = A
      NOTICE (-0.5*LNTARGET) IS POSITIVE.
      IF(.NOT.( ERLNPER .LE. -0.5*LNTARGET ))GOTO 9004
      USE FULL-SIZED CORRECTION
      A = A - ERLNPER / DLNPERDA

```

```

105      GO TO 9005
106      ELSE
107      CONTINUE
108
109      USE LIMITED CORRECTION TO
110      REDUCE OVERHOOT TENDENCY
111
112      LNPNEW = ERRLNPER + LNTARGET
113      A = A - LNPNEW / DLNPERDA
114      CONTINUE
115      ENDIF
116      NRAPHSON = NRAPHSON + 1
117      CONTINUE
118      ENDIF
119
120      NEWTON RAPHSON CORRECTION, IF ANY, COMPLETED
121      NOW EVALUATE THE RESIDUAL ERROR
122
123      THING =
124      1 * ONORM( A-E) + 2. * ONORM( A) + ONORM( A-E)
125      2 * ONORM(D1 -E) + 2. * ONORM(D1 ) + ONORM(D1 -E)
126      3 * ONORM(D2-A-E) + 4. * ONORM(D2-A) + 2. * ONORM(D2-A-E)
127      4 * ONORM(D3 -E) + 2. * ONORM(D3 ) + ONORM(D3 -E)
128      5 * ONORM(D4-A-E) + 2. * ONORM(D4-A) + ONORM(D4-A-E)
129
130      PERNEW = THING / 8.
131      ERRLNPER = ALOG( PERNEW / PER )
132      ERROLD = ERNEW
133      ERNEW = ABS( ERRLNPER )
134      IF(ERNEW) PRINT, NRAPHSON = NRAPHSON, " NATURAL LOG ",
135      "PERNEW/PERTARGET =", ERRLNPER
136      IF( ERNEW .LT. ERROLD ) GO TO 9002
137      ENDO
138
139      9001
140      C
141      ADR = ANROLD / DNR
142      DPERDADR = DPERDADR * DNR
143      RETURN
144      END

```

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LABEL ADDRESS PAGE 4

EDIT DATE 02-19-75 \*SR 2/H

	ELAPSED TIME (SEC)	LINES/ MINUTE
OVERHEAD	.07	
PHASE 1	.09	83754
PHASE 2	.00	
PHASE 4	.07	107992
PHASE 5	.18	45940
TOTAL	.43	19188

THERE WERE NO DIAGNOSTICS IN ABOVE COMPILATION  
26K WORDS WERE USED FOR THIS COMPILATION

```

1  SUBROUTINE DNR0LE(BER,AIDR,DNR)  ! * MOD-10/SEPT/76 W F ACKER
2  ( DATA-NOISE RATIO FOR NINE-LEVEL EYE )
3  DETERMINES DATA-NOISE RATIO (DNR) REQUIRED TO PRODUCE SPECIFIED
4  BIT ERROR RATE (BER) FOR THREE LEVEL PARTIAL RESPONSE EYE PATTERN
5  WITH INTERSYMBOL INTERFERENCE (OF AMPLITUDE AIDR) DISTORTING THE
6  THREE-LEVEL EYE INTO A NINE-LEVEL EYE
7  NEFDS D IORM, ONORM, AND ZNORM (IN "NORMAL" FILE)
8
9  -- INPUT VARIABLES --
10
11  REAL BER !* (BAUDS IN ERROR)/(BAUDS TRANSMITTED)
12  REAL AIDR !* (AMPLITUDE OF INTERSYMBOL INTERFERENCE)/D
13  WHERE 2D = NOMINAL DISTANCE BETWEEN LEVELS
14
15  -- OUTPUT --
16
17  REAL DNR !* D / RMS NOISE AMPLITUDE. D DEFINED ABOVE
18
19  -- INTERNAL VARIABLES
20
21  LOGICAL DEBUG/F !* TRUE GIVES DIAGNOSTIC PRINTOUT
22  INTEGER NRAPHSON !* COUNTS NEWTON-RAPHSON ITERATIONS
23  REAL DNRNEW !* NEWEST APPROX TO DNR VALUE FOR SPECIFIED BER
24  REAL DNROLD !* PREVIOUS VALUE OF DNRNEW
25  REAL SERNEW !* (BIT ERROR RATE COMPUTED FOR DNRNEW
26  REAL ERRBER !* (BERNEW - BER) * 1.E+10 TO AVOID UNDERFLOW
27  REAL ERNEW !* ABSOLUTE VALUE OF ERRBER USING DNRNEW
28  REAL EROLD !* PREVIOUS VALUE OF ERNEW
29  REAL DRVBER !* DERIVATIVE OF BERNEW WRT DNRNEW
30
31  C *****
32  DNRNEW = ZNORM(BER/1.5) / (1. - AIDR)
33  IMPROVE FIRST APPROXIMATION OF
34  DNR BY NEWTON-RAPHSON ITERATION
35
36  C
37  C
38  C
39  C
40  C
41  C
42  C
43  C
44  C
45  C
46  C
47  C
48  C
49  C
50  C
51  C
52  C

```

SP052 02 08-10-77 01.191

```

53 1      ERNEW = (
54   * 6. *  QNORM( DNRNEW * (1.-AIDR) )
55   *12. *  QNORM( DNRNEW )
56   * 6. *  QNORM( DNRNEW * (1.-AIDR) ) ) / 16.
57  ERBER = BERNEW * 1.E+10 - BER * 1.E+10
58  IF (.NOT. ( NRAPHSON .GT. 0 )) GOTO 9004
59  ERROLD = ERNEW
60  ERNEW = ABS(ERBER)
61  CONTINUE
62  C
63  IF (DEBUG) PRINT *, NRAPHSON = ", NRAPHSON, "ERR BER *1.E+10 =", ERBER
64  NRAPHSON = NRAPHSON + 1
65  IF ( ERNEW .LT. ERROLD ) GO TO 9002
66  ENDO
67  DNR = DNROLD
68  RETURN
69  END

```

SP052 02 08-10-77 01.191

EDIT DATE 02-19-75 \*SR 2/H

	ELAPSED TIME (SEC)	LINES/ MINUTE
OVERHEAD	.07	
PHASE 1	.06	68749
PHASE 2	.00	
PHASE 4	.05	80193
PHASE 5	.08	47062
TOTAL	.27	15075

THERE WERE NO DIAGNOSTICS IN ABOVE COMPILATION  
26X WORDS WERE USED FOR THIS COMPILATION



01.191

SP052 02 0A-10-77

```

1  "WITH RESPECT TO A / D RATIO.")
18  FORMAT (BX,"TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ",
1  "ADAPTIVE THRESHOLD=,/.25X,"LOOP FOR SMALL CHANGES AROUND ",
2  "STEADY STATE VALUES",/.25X,"WHEN BITF RATE = ",F14.0,
3  " " = " AND ERROR SIGNAL=,/.25X,"DIVIDER RATIO INTO D/A CONVERTER",
4  " " = ",F14.0 )
19  FORMAT (BX,"AIDR          = AMPLITUDE OF INTERSYMBOL.",
1  " " INTERFERENCE TO D RATIO.")
C  #####
C  NROW = 0
C  DOWHILE (NROW .LT. NRER)
C    GO TO 9001
C    CONTINUE
C  9002
C  CONTINUE
C  PRINT A PAGE
C  #####
C  PRINT HEADINGS
C  WRITE (6.1)
C  WRITE (6.2)
C  WRITE (6.3)
C  WRITE (6.4) AIDR
C  WRITE (6.5) PERINVR
C  WRITE (6.7)
C  WRITE (6.8)
C  WRITE (6.9)
C  FORMAT (11M0)
C  #####
C  PRINT ROWS OF DATA
C  ILINE = 0
C  LASTROW = MIN( NROW*36, NBER )
C  DOWHILE( NROW .LT. LASTROW )
C    GO TO 9003
C    CONTINUE
C  9004
C    NROW = NROW + 1
C  WRITE (6.10) BERM (NROW),NSRM(NROW),SNRM(NROW),ADRM(NROW) ,
C    DPERDADM(NROW),TMNCSTM(NROW)
C    PRINT A ROW
C  IF(.NOT.(NBER
C    WRITE (6.11)
C    ILINE = ILINE + 2
C    GO TO 9006
C  ELSE
C    CONTINUE
C    ILINE = ILINE + 1
C    CONTINUE
C  9005
C  9006
C  ENDIF
C  IF( NROW .LT. LASTROW ) GO TO 9004
C  ENDO
C  #####
C  ALL DATA PRINTED. MAKE RESIDUAL ROWS BLANK
C  NLINE = 39- ILINE
C  DOWHILE (NLINE .GT. 0 )
C    GO TO 9007

```

105 9008 CONTINUE  
 106 WRITE (6.11)  
 107 NLINE = NLINE + 1  
 108 IF (NLINE .GT. 0 ) GO TO 9008  
 109 C  
 110 ENDO  
 111 WRITE (6.12)  
 112 WRITE (6.13)  
 113 WRITE (6.19)  
 114 WRITE (6.14)  
 115 WRITE (6.15)  
 116 WRITE (6.16)  
 117 WRITE (6.17)  
 118 WRITE (6.18) BITRATE, RDIVBAD  
 119 IF (NROW .LT. NBER) GO TO 9002  
 120 C  
 121 ENDO  
 122 RETURN  
 123 END

WRITE FOOTNOTES

SP052 02 08-10-77 01.191

LABEL TABLE PAGE 4

EDIT DATE 02-19-75 \*SR 2/H

	ELAPSED TIME (SEC)	LINES/ MINUTE
OVERHEAD	.07	
PHASE 1	.10	70564
PHASE 2	.00	
PHASE 4	.06	108637
PHASE 5	.15	47985
TOTAL	.39	18410

TOTAL TIME 1.57

THERE WERE NO DIAGNOSTICS IN ABOVE COMPILATION  
26X WORDS WERE USED FOR THIS COMPILATION

ORIGIN	DATE	MODULE	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION
023434	08/10/77	....	OPTION	FORTAN			
022020	08/10/77	DR9L	ADR9LE	022020			
021510	08/10/77	NR9L	DNR9LF	021510			
021124	08/10/77	ABLE	TABLE	021124			
020536	09/14/76	DFNO	DFNORM	020536			
020506	09/14/76	PNOR	PNORM	020506			
020332	09/14/76	QHOR	QNHORM	020332			
020072	09/14/76	ZHOR	ZNHORM	020072			
017446	09/14/76	ZHOR	ZNHORM	017446			

## SUBPROGRAMS INCLUDED IN DECK.

ORIGIN	DATE	MODULE	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION
023434	08/10/77	....	OPTION	FORTAN			
022020	08/10/77	DR9L	ADR9LE	022020			
021510	08/10/77	NR9L	DNR9LF	021510			
021124	08/10/77	ABLE	TABLE	021124			
020536	09/14/76	DFNO	DFNORM	020536			
020506	09/14/76	PNOR	PNORM	020506			
020332	09/14/76	QHOR	QNHORM	020332			
020072	09/14/76	ZHOR	ZNHORM	020072			
017446	09/14/76	ZHOR	ZNHORM	017446			

## SUBPROGRAMS OBTAINED FROM SYSTEM LIBRARY

ORIGIN	DATE	MODULE	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION	ENTRY LOCATION
017236	01/10/73	F5OR	.SORT1	017240			
017100	01/10/73	FALG	.ALOG1	017110			
016770	01/10/73	FEXP	.EXP1	016772			
016442	75/03/21	FRDD	.FRDD	016412			
			.FRCD	016417			
			.BDCNV	016445			
			.PRMT	016457			
			.FRMT2	016464			
			.FXMC	016443			
			.AR	016432			
			.A17	016421			
			.A31	016435			
			.A35	016464			
			.CMACH	016451			
			.LWRT	016453			
			.FRD	016421			
012756	75/02/14	FDIO	.FCD	015621			
			.IO5	015460			
			.FCNV2	013652			
			.FMSC2	012777			
			.SVRG	012762			
			.SKPB4	013545			
			.FDFLT	013155			
			.CQAP	013214			
			.CKST	013753			
			.CH1	013776			
			.FRTN	016421			
			.GCOMP	016504			
			.TC	016461			
			.PUINT	016460			
			.A1	016446			
			.A13	016516			
			.A21	016524			
			.A32	016560			
			.A51	016444			
			.OCT60	016447			
			.RCN18	016434			
			.FVN	015526			
			.FFL	015733			
			.FFDRC	016432			
			.INCR	016434			
			.FMSC4	013014			
			.RETIN	012775			
			.VL1ST	013472			
			.CLSLH	013350			
			.CLPAR	013160			
			.DATUM	016332			
			.FMSZ	016421			
			.FNC	015750			
			.FRT	015712			
			.FCNV1	013557			
			.CKSTA	013761			
			.FMSC6	013023			
			.EXIT	013066			
			.CSCFM	013074			
			.CSCFM	013102			
			.SKPB3	013553			
			.VCOMA	014604			
			.STOP	014154			
			.FCNV	013636			
			.FENC	016615			
			.FFIL	016622			
			.LMSZ	016514			
			.POINT	016501			
			.FILL	016512			
			.A3	016456			
			.A14	016517			
			.A24	016446			
			.A33	016562			
			.A52	016442			
			.UPPRF	016453			
			.FDC	016001			
			.IO1	015365			
			.FCNV	013566			
			.FMSC1	013011			
			.EFFLG	016433			
			.LMBGN	016027			
			.FEFLT	013154			
			.CCMA	013120			
			.CKSTP	013742			
			.CCR	014617			
			.FCNVD	013575			

ORIGIN	DATE	MODULE	ENTRY	LOCATION	ENTRY	LOCATION	ENTRY	LOCATION	ENTRY	LOCATION
012702	74/01/11	FEOF	FCNVL	013605						
012536	74/07/22	FSLW	FEOP	012702						
012210	09/01/73	FXEM	FSLW	012536						
			FXEM	012210						
			LSTMS	012520						
			FX2	012246						
			FX9	012245						
			FX6	012321						
011030	75/02/14	FXER	FXM	011050						
			FGFRP	011541						
			FXDV	012146						
			FRRLK	011375						
			FXEIT	010750						
010750	73/05/24	FXIT	FXEIT	010750						
010160	74/11/06	FOPE	FOPE	010207						
			FJOV	010205						
007722	07/04/65	FDPT	FID0	010036						
007576	73/09/05	FSTU	FSETU	007623						
			FTL	007621						
007574	73/09/03	FBCD	ASCB	007574						
007372	03/05/73	FTAB	GTAB	007372						
007366	74/10/24	FXHN	FXND	007366						
007336	01/03/66	GST1	GSTIN	007336						
007242	01/03/66	GST0	GSTOT	007242						
007172	07/07/69	GWRG	GWRTR	007172						
006436	75/01/15	GGTB	GGTBK	006436						
			GAGET	006440						
006430	07/07/69	GRMT	GOPNP	006430						
005666	75/03/21	GP7B	GCONP	005666						
			PUT	005674						
			GPSAV	005677						
005072	75/02/05	GOPE	GOPEN	005072						
005064	04/29/72	GRNT	GKREA	005064						
004374	74/12/06	GCLO	GCLSF	004374						
			CLOSE	004374						
004210	73/12/03	G20R	GR200	004210						
004122	75/01/08	G25R	GR225	004122						
004046	04/25/73	G30R	GR250	004046						
003574	75/02/03	G37R	GR275	003574						
003412	75/02/05	G37R	GR377	003450						
003370	74/12/03	G60R	GR960	003375						
002774	75/02/05	G80R	GR980	002774						
			GP999	003013						
002742	75/04/11	G90R	GR990	002742						
002102	04/29/72	GLAB	GINHD	002107						
			GOVPL	002110						
002100	03/07/66	GINI	GINID	002100						
			ALLOATED CORF							
			RELOCATABLE							
			RANGE							
			SIZE							
			000000 THRU 023777							
			002100 THRU 023777							
			024000							
			021700							

ORIGIN DATE MODULE ENTRY LOCATION ENTRY LOCATION ENTRY LOCATION ENTRY LOCATION

FCB AND BUFFER SPACE  
 AVAILABLE 000101 THRU 002077 001777  
 FILE CTRL BLKS 001750 THRU 002100 000131  
 MAXIMUM BUFFER SPACE REQUIRED 001202  
 10K, IS THE MINIMUM MEMORY NEEDED TO LOAD THIS ACTIVITY WITH ALL FILES OPEN 740808 2/H  
 001164 LOCATIONS REQUIRED FOR LOAD TABLE  
 EXECUTION PROGRAM ENTERED AT 023434 THROUGH .FSETU

RECORD COUNT = 001282

[illegible]

A108	=	0.20000000E-01	BER	=	0.25000000E-03
A109	=	0.20000000E-01	BER	=	0.16000000E-03
A110	=	0.20000000E-01	BER	=	0.10000000E-03
A111	=	0.20000000E-01	BER	=	0.63000000E-04
A112	=	0.20000000E-01	BER	=	0.40000000E-04
A113	=	0.20000000E-01	BER	=	0.25000000E-04
A114	=	0.20000000E-01	BER	=	0.16000000E-04
A115	=	0.20000000E-01	BER	=	0.10000000E-04
A116	=	0.20000000E-01	BER	=	0.63000000E-05
A117	=	0.20000000E-01	BER	=	0.40000000E-05
A118	=	0.20000000E-01	BER	=	0.25000000E-05
A119	=	0.20000000E-01	BER	=	0.16000000E-05
A120	=	0.20000000E-01	BER	=	0.10000000E-05
A121	=	0.20000000E-01	BER	=	0.63000000E-06
A122	=	0.20000000E-01	BER	=	0.40000000E-06
A123	=	0.20000000E-01	BER	=	0.25000000E-06
A124	=	0.20000000E-01	BER	=	0.16000000E-06
A125	=	0.20000000E-01	BER	=	0.10000000E-06
A126	=	0.20000000E-01	BER	=	0.63000000E-07
A127	=	0.20000000E-01	BER	=	0.40000000E-07
A128	=	0.20000000E-01	BER	=	0.25000000E-07
A129	=	0.20000000E-01	BER	=	0.16000000E-07
A130	=	0.20000000E-01	BER	=	0.10000000E-07
A131	=	0.20000000E-01	BER	=	0.63000000E-08
A132	=	0.20000000E-01	BER	=	0.40000000E-08
A133	=	0.20000000E-01	BER	=	0.25000000E-08
A134	=	0.20000000E-01	BER	=	0.16000000E-08
A135	=	0.20000000E-01	BER	=	0.10000000E-08
A136	=	0.20000000E-01	BER	=	0.63000000E-09
A137	=	0.20000000E-01	BER	=	0.40000000E-09
A138	=	0.20000000E-01	BER	=	0.25000000E-09
A139	=	0.20000000E-01	BER	=	0.16000000E-09
A140	=	0.20000000E-01	BER	=	0.10000000E-09
A141	=	0.20000000E-01	BER	=	0.63000000E-10
A142	=	0.20000000E-01	BER	=	0.40000000E-10
A143	=	0.20000000E-01	BER	=	0.25000000E-10
A144	=	0.20000000E-01	BER	=	0.16000000E-10
A145	=	0.20000000E-01	BER	=	0.10000000E-10
A146	=	0.20000000E-01	BER	=	0.63000000E-11
A147	=	0.20000000E-01	BER	=	0.40000000E-11
A148	=	0.20000000E-01	BER	=	0.25000000E-11
A149	=	0.20000000E-01	BER	=	0.16000000E-11
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A155	=	0.20000000E-01	BER	=	0.10000000E-12
A156	=	0.20000000E-01	BER	=	0.63000000E-13
A157	=	0.20000000E-01	BER	=	0.40000000E-13
A158	=	0.20000000E-01	BER	=	0.25000000E-13
A159	=	0.20000000E-01	BER	=	0.16000000E-13
A160	=	0.20000000E-01	BER	=	0.10000000E-13
A161	=	0.20000000E-01	BER	=	0.63000000E-14
A162	=	0.20000000E-01	BER	=	0.40000000E-14
A163	=	0.20000000E-01	BER	=	0.25000000E-14
A164	=	0.20000000E-01	BER	=	0.16000000E-14
A165	=	0.20000000E-01	BER	=	0.10000000E-14
A166	=	0.20000000E-01	BER	=	0.63000000E-02
A167	=	0.20000000E-01	BER	=	0.40000000E-03
A168	=	0.20000000E-01	BER	=	0.25000000E-03
A169	=	0.20000000E-01	BER	=	0.16000000E-03
A170	=	0.20000000E-01	BER	=	0.10000000E-03
A171	=	0.20000000E-01	BER	=	0.63000000E-04
A172	=	0.20000000E-01	BER	=	0.40000000E-04
A173	=	0.20000000E-01	BER	=	0.25000000E-04







B-32

A1D0	=	0.1200000E+00	00	0.2500000E+08	08
A1D1	=	0.1200000E+00	00	0.1600000E+08	08
A1D2	=	0.1200000E+00	00	0.1000000E+08	08
A1D3	=	0.1200000E+00	00	0.0300000E+08	08
A1D4	=	0.1200000E+00	00	0.0300000E+09	09
A1D5	=	0.1200000E+00	00	0.4000000E+09	09
A1D6	=	0.1200000E+00	00	0.2500000E+09	09
A1D7	=	0.1200000E+00	00	0.1600000E+09	09
A1D8	=	0.1200000E+00	00	0.1000000E+09	09
A1D9	=	0.1200000E+00	00	0.0300000E+10	10
A1D10	=	0.1200000E+00	00	0.4000000E+10	10
A1D11	=	0.1200000E+00	00	0.2500000E+10	10
A1D12	=	0.1200000E+00	00	0.1600000E+10	10
A1D13	=	0.1200000E+00	00	0.1000000E+10	10
A1D14	=	0.1200000E+00	00	0.0300000E+11	11
A1D15	=	0.1200000E+00	00	0.4000000E+11	11
A1D16	=	0.1200000E+00	00	0.2500000E+11	11
A1D17	=	0.1200000E+00	00	0.1600000E+11	11
A1D18	=	0.1200000E+00	00	0.1000000E+12	12
A1D19	=	0.1200000E+00	00	0.0300000E+12	12
A1D20	=	0.1200000E+00	00	0.4000000E+12	12
A1D21	=	0.1200000E+00	00	0.2500000E+12	12
A1D22	=	0.1200000E+00	00	0.1600000E+12	12
A1D23	=	0.1200000E+00	00	0.1000000E+13	13
A1D24	=	0.1200000E+00	00	0.0300000E+13	13
A1D25	=	0.1200000E+00	00	0.4000000E+13	13
A1D26	=	0.1200000E+00	00	0.2500000E+13	13
A1D27	=	0.1200000E+00	00	0.1600000E+13	13
A1D28	=	0.1200000E+00	00	0.1000000E+14	14
A1D29	=	0.1200000E+00	00	0.0300000E+14	14
A1D30	=	0.1200000E+00	00	0.4000000E+14	14
A1D31	=	0.1200000E+00	00	0.2500000E+14	14
A1D32	=	0.1200000E+00	00	0.1600000E+14	14
A1D33	=	0.1200000E+00	00	0.1000000E+15	15
A1D34	=	0.1400000E+00	00	0.1000000E+03	03
A1D35	=	0.1400000E+00	00	0.0300000E+03	03
A1D36	=	0.1400000E+00	00	0.4000000E+03	03
A1D37	=	0.1400000E+00	00	0.2500000E+03	03
A1D38	=	0.1400000E+00	00	0.1600000E+03	03
A1D39	=	0.1400000E+00	00	0.1000000E+03	03
A1D40	=	0.1400000E+00	00	0.0300000E+04	04
A1D41	=	0.1400000E+00	00	0.4000000E+04	04
A1D42	=	0.1400000E+00	00	0.2500000E+04	04
A1D43	=	0.1400000E+00	00	0.1600000E+04	04
A1D44	=	0.1400000E+00	00	0.1000000E+04	04
A1D45	=	0.1400000E+00	00	0.0300000E+05	05
A1D46	=	0.1400000E+00	00	0.4000000E+05	05
A1D47	=	0.1400000E+00	00	0.2500000E+05	05
A1D48	=	0.1400000E+00	00	0.1600000E+05	05
A1D49	=	0.1400000E+00	00	0.1000000E+05	05
A1D50	=	0.1400000E+00	00	0.0300000E+06	06
A1D51	=	0.1400000E+00	00	0.4000000E+06	06
A1D52	=	0.1400000E+00	00	0.2500000E+06	06
A1D53	=	0.1400000E+00	00	0.1600000E+06	06
A1D54	=	0.1400000E+00	00	0.1000000E+07	07
A1D55	=	0.1400000E+00	00	0.0300000E+07	07
A1D56	=	0.1400000E+00	00	0.4000000E+07	07
A1D57	=	0.1400000E+00	00	0.2500000E+07	07
A1D58	=	0.1400000E+00	00</		



B-35

13-36



13-38







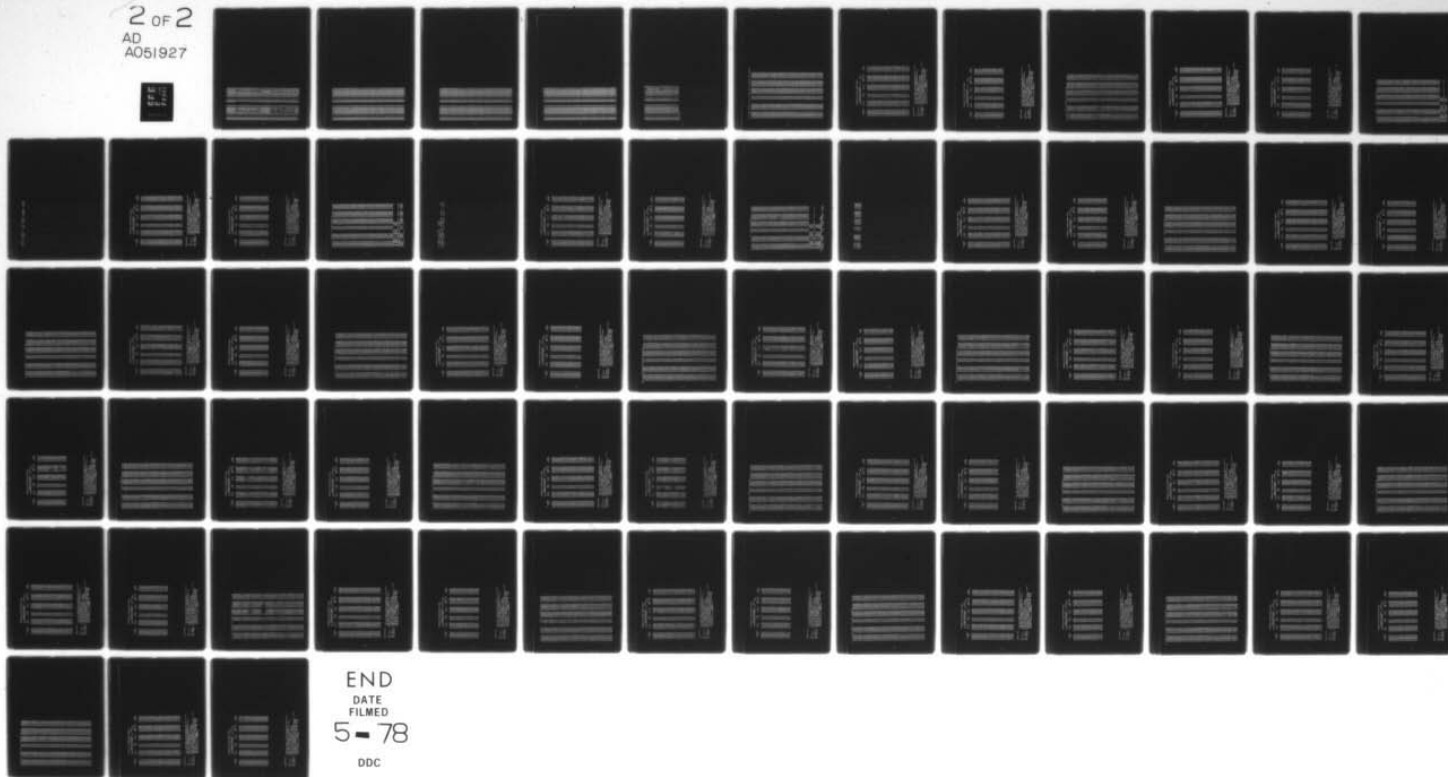
AD-A051 927

HONEYWELL INC ST PETERSBURG FL AVIONICS DIV  
ATEC DIGITAL ADAPTATION STUDY, DEVELOPMENT AND FIELD EVALUATION--ETC(U)  
JAN 78 T J CAMPBELL, W F ACKER, C L CHRISTNER F30602-75-C-0282  
1077-14813-VOL-3 RADC-TR-77-431-VOL-3 NL

UNCLASSIFIED

2 OF 2

AD  
A051927



END

DATE

FILMED

5-78

DDC



[illegible]



B-4.

AIDR =	0.40000000E 00	WER =	0.40000000 E-09
AIDR =	0.40000000E 00	BER =	0.25000000 E-09
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AIDR =	0.40000000E 00	BER =	0.10000000E-09
AIDR =	0.40000000E 00	BER =	0.63000000E-10
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AIDR =	0.40000000E 00	BER =	0.25000000E-10
AIDR =	0.40000000E 00	BER =	0.16000000E-10
AIDR =	0.40000000E 00	BER =	0.10000000E-10
AIDR =	0.40000000E 00	BER =	0.63000000E-11
AIDR =	0.40000000E 00	BER =	0.40000000E-11
AIDR =	0.40000000E 00	BER =	0.25000000E-11
AIDR =	0.40000000E 00	BER =	0.16000000E-11
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AIDR =	0.40000000E 00	BER =	0.63000000 E-12
AIDR =	0.40000000E 00	BER =	0.40000000 E-12
AIDR =	0.40000000E 00	BER =	0.25000000 E-12
AIDR =	0.40000000E 00	BER =	0.16000000E-12
AIDR =	0.40000000E 00	BER =	0.10000000E-12
AIDR =	0.40000000E 00	BER =	0.63000000E-13
AIDR =	0.40000000E 00	BER =	0.40000000E-13
AIDR =	0.40000000E 00	BER =	0.25000000E-13
AIDR =	0.40000000E 00	BER =	0.16000000 E-13
AIDR =	0.40000000E 00	BER =	0.10000000 E-13
AIDR =	0.40000000E 00	BER =	0.63000000E-14
AIDR =	0.40000000E 00	BER =	0.40000000E-14
AIDR =	0.40000000E 00	BER =	0.25000000E-14
AIDR =	0.40000000E 00	BER =	0.16000000E-14
AIDR =	0.40000000E 00	BER =	0.10000000E-14
NORMAL END			

YUMP = SP052, ACTIVITY # = 03, REPORT CODE = 06, RECORD COUNT = 003765

0.100E-02	0.220371	13.14	0.966668	-0.010461	0.124742
0.630E-03	0.211755	13.48	0.950513	-0.007193	0.181424
0.400E-03	0.204164	13.80	0.928164	-0.005345	0.244123
0.250E-03	0.197080	14.11	0.899333	-0.004513	0.289160
0.160E-03	0.190972	14.38	0.870198	-0.004346	0.300260
0.100E-03	0.185096	14.65	0.841009	-0.004455	0.292938
0.630E-04	0.179802	14.90	0.814950	-0.004644	0.280962
0.400E-04	0.175004	15.14	0.791819	-0.004837	0.269767
0.250E-04	0.170411	15.37	0.770109	-0.005022	0.259855
0.160E-04	0.166360	15.58	0.751241	-0.005181	0.251877
0.100E-04	0.162383	15.79	0.732912	-0.005334	0.244640
0.630E-05	0.158732	15.99	0.716209	-0.005474	0.238393
0.400E-05	0.155366	16.17	0.700886	-0.005603	0.232881
0.250E-05	0.152094	16.36	0.686040	-0.005731	0.227684
0.160E-05	0.149167	16.53	0.672785	-0.005848	0.223130
0.100E-05	0.146256	16.70	0.659621	-0.005968	0.218662
0.630E-06	0.143521	16.86	0.647400	-0.006082	0.214549
0.400E-06	0.141029	17.01	0.636014	-0.006192	0.210738
0.250E-06	0.138532	17.17	0.624836	-0.006304	0.207010
0.160E-06	0.136314	17.31	0.614740	-0.006408	0.203651
0.100E-06	0.134069	17.45	0.604611	-0.006515	0.200286
0.630E-07	0.131984	17.59	0.595118	-0.006619	0.197136
0.400E-07	0.129987	17.72	0.586200	-0.006720	0.194179
0.250E-07	0.128030	17.85	0.577375	-0.006823	0.191253
0.160E-07	0.126250	17.98	0.569348	-0.006919	0.188593
0.100E-07	0.124453	18.10	0.561240	-0.007019	0.185906
0.630E-08	0.122737	18.22	0.553592	-0.007116	0.183372
0.400E-08	0.121154	18.33	0.546365	-0.007210	0.180978
0.250E-08	0.119559	18.45	0.539172	-0.007307	0.178595
0.160E-08	0.118101	18.55	0.532595	-0.007397	0.176417
0.100E-08	0.116620	18.66	0.525918	-0.007491	0.174205
0.630E-09	0.115217	18.77	0.519590	-0.007582	0.172109
0.400E-09	0.113885	18.87	0.513562	-0.007671	0.170119
0.250E-09	0.112553	18.97	0.507577	-0.007761	0.168130
0.160E-09	0.111330	19.07	0.502063	-0.007847	0.166303
0.100E-09	0.110084	19.17	0.496443	-0.007935	0.164442
0.630E-10	0.108899	19.26	0.491096	-0.008022	0.162670
0.400E-10	0.107769	19.35	0.486002	-0.008106	0.160983
0.250E-10	0.106636	19.44	0.480892	-0.008192	0.159290
0.160E-10	0.105592	19.53	0.476185	-0.008273	0.157731
0.100E-10	0.104525	19.62	0.471371	-0.008357	0.156137
0.630E-11	0.103506	19.70	0.466777	-0.008440	0.154615
0.400E-11	0.102523	19.78	0.462388	-0.008520	0.153161
0.250E-11	0.101553	19.87	0.457972	-0.008602	0.151698
0.160E-11	0.100649	19.94	0.453893	-0.008679	0.150347
0.100E-11	0.099722	20.02	0.449711	-0.008760	0.148962
0.630E-12	0.098834	20.10	0.445570	-0.008839	0.147637
0.400E-12	0.097984	20.18	0.441877	-0.008915	0.146367
0.250E-12	0.097127	20.25	0.438012	-0.008994	0.145087
0.160E-12	0.096334	20.32	0.434434	-0.009068	0.143902
0.100E-12	0.095519	20.40	0.430757	-0.009145	0.142684
0.630E-13	0.094737	20.47	0.427232	-0.009221	0.141516
0.400E-13	0.093987	20.54	0.423848	-0.009295	0.140395
0.250E-13	0.093228	20.61	0.420429	-0.009370	0.139263
0.160E-13	0.092525	20.67	0.417257	-0.009441	0.138212
0.100E-13	0.091801	20.74	0.413992	-0.009516	0.137131
0.630E-14	0.091106	20.81	0.410856	-0.009588	0.136092
0.400E-14	0.090437	20.87	0.407840	-0.009659	0.135093
0.250E-14	0.089760	20.94	0.404788	-0.009732	0.134082
0.160E-14	0.089131	21.00	0.401951	-0.009801	0.133142
0.100E-14	0.088483	21.06	0.399027	-0.009873	0.132173

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.220371	13.14	0.966668	-0.010461	0.124742
0.300E-03	0.211755	13.48	0.950513	-0.007193	0.181424
0.500E-03	0.204164	13.80	0.928164	-0.005345	0.244123
0.700E-03	0.197080	14.11	0.899333	-0.004513	0.289160
0.100E-03	0.190972	14.38	0.870198	-0.004346	0.300260
0.100E-03	0.185096	14.65	0.841009	-0.004455	0.292938
0.300E-04	0.179802	14.90	0.814950	-0.004644	0.280962
0.500E-04	0.175004	15.14	0.791819	-0.004837	0.269767
0.700E-04	0.170411	15.37	0.770109	-0.005022	0.259855
0.100E-04	0.166360	15.58	0.751241	-0.005181	0.251877
0.100E-04	0.162383	15.79	0.732912	-0.005334	0.244640
0.300E-05	0.158732	15.99	0.716209	-0.005474	0.238393
0.500E-05	0.155366	16.17	0.700886	-0.005603	0.232881
0.700E-05	0.152094	16.36	0.686040	-0.005731	0.227684
0.100E-05	0.149167	16.53	0.672785	-0.005848	0.223130
0.100E-05	0.146256	16.70	0.659621	-0.005968	0.218662
0.300E-06	0.143551	16.86	0.647400	-0.006082	0.214549
0.500E-06	0.141029	17.01	0.636014	-0.006192	0.210738
0.700E-06	0.138552	17.17	0.624836	-0.006304	0.207010
0.100E-06	0.136314	17.31	0.614740	-0.006408	0.203651
0.100E-06	0.134069	17.45	0.604611	-0.006515	0.200286
0.300E-07	0.131964	17.59	0.595118	-0.006619	0.197136
0.500E-07	0.129987	17.72	0.586200	-0.006720	0.194179
0.700E-07	0.128030	17.85	0.577375	-0.006823	0.191253
0.100E-07	0.126250	17.98	0.569348	-0.006919	0.188593
0.100E-07	0.124453	18.10	0.561240	-0.007019	0.185906
0.300E-08	0.122757	18.22	0.553592	-0.007116	0.183372
0.500E-08	0.121154	18.33	0.546365	-0.007210	0.180978
0.700E-08	0.119559	18.45	0.539172	-0.007307	0.178595
0.100E-08	0.118101	18.55	0.532595	-0.007397	0.176417
0.100E-08	0.116620	18.66	0.525918	-0.007491	0.174205
0.300E-09	0.115217	18.77	0.519590	-0.007582	0.172109
0.500E-09	0.113885	18.87	0.513582	-0.007671	0.170119
0.700E-09	0.112553	18.97	0.507577	-0.007761	0.168130
0.100E-09	0.111330	19.07	0.502063	-0.007847	0.166303
0.100E-09	0.110084	19.17	0.496443	-0.007935	0.164442

## NOTATION:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.108899	19.26	0.491096	-0.008022	0.162670
0.420E-10	0.107769	19.35	0.486002	-0.008106	0.160983
0.250E-10	0.106636	19.44	0.480892	-0.008192	0.159290
0.160E-10	0.105592	19.53	0.476185	-0.008273	0.157731
0.100E-10	0.104525	19.62	0.471371	-0.008357	0.156137
0.630E-11	0.103506	19.70	0.466777	-0.008440	0.154615
0.400E-11	0.102533	19.78	0.462388	-0.008520	0.153161
0.250E-11	0.101553	19.87	0.457972	-0.008602	0.151698
0.160E-11	0.100649	19.94	0.453893	-0.008679	0.150347
0.100E-11	0.099722	20.02	0.449711	-0.008760	0.148962
0.630E-12	0.098834	20.10	0.445710	-0.008839	0.147637
0.400E-12	0.097984	20.18	0.441877	-0.008915	0.146367
0.250E-12	0.097127	20.25	0.438012	-0.008994	0.145087
0.160E-12	0.096334	20.32	0.434434	-0.009068	0.143902
0.100E-12	0.095519	20.40	0.430757	-0.009145	0.142684
0.630E-13	0.094737	20.47	0.427232	-0.009221	0.141516
0.400E-13	0.093987	20.54	0.423848	-0.009295	0.140395
0.250E-13	0.093228	20.61	0.420429	-0.009370	0.139263
0.160E-13	0.092525	20.67	0.417257	-0.009441	0.138212
0.100E-13	0.091801	20.74	0.413992	-0.009516	0.137131
0.630E-14	0.091106	20.81	0.410856	-0.009588	0.136092
0.400E-14	0.090437	20.87	0.407840	-0.009659	0.135093
0.250E-14	0.089760	20.94	0.404788	-0.009732	0.134082
0.160E-14	0.089131	21.00	0.401951	-0.009801	0.133142
0.100E-14	0.088483	21.06	0.399027	-0.009873	0.132173

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 13 IN DEBUG PRINTOUT MODE. TABLE HAS CALLED.

0.100E-02	0.220134	13.15	0.966668	-0.010461	0.124741
0.300E-01	0.211509	13.49	0.950513	-0.007193	0.181423
0.500E-03	0.203909	13.81	0.928164	-0.005345	0.244122
0.250E-03	0.196817	14.12	0.899334	-0.004513	0.289159
0.160E-03	0.190701	14.39	0.870199	-0.004346	0.300258
0.100E-03	0.184817	14.67	0.841011	-0.004495	0.292937
0.60E-04	0.179516	14.92	0.814951	-0.004644	0.280960
0.40E-04	0.174710	15.15	0.791821	-0.004837	0.269766
0.250E-04	0.170110	15.39	0.770111	-0.005022	0.259853
0.160E-04	0.166052	15.60	0.751244	-0.005181	0.251875
0.100E-04	0.162068	15.81	0.732916	-0.005334	0.244638
0.60E-05	0.158410	16.00	0.716213	-0.005474	0.238392
0.400E-05	0.155038	16.19	0.700892	-0.005603	0.232880
0.250E-05	0.151760	16.38	0.686046	-0.005731	0.227683
0.160E-05	0.148827	16.55	0.672792	-0.005848	0.223128
0.100E-05	0.145909	16.72	0.659629	-0.005968	0.218661
0.60E-06	0.143194	16.88	0.647408	-0.006082	0.214548
0.400E-06	0.140670	17.04	0.636024	-0.006192	0.210737
0.250E-06	0.138187	17.19	0.624847	-0.006304	0.207009
0.160E-06	0.135944	17.33	0.614752	-0.006408	0.203650
0.100E-06	0.133693	17.48	0.604625	-0.006515	0.200286
0.60E-07	0.131583	17.62	0.595133	-0.006619	0.197136
0.400E-07	0.129400	17.75	0.586216	-0.006720	0.194178
0.250E-07	0.127638	17.88	0.577393	-0.006823	0.191253
0.160E-07	0.125853	18.00	0.569367	-0.006919	0.188593
0.100E-07	0.124050	18.13	0.561261	-0.007019	0.185907
0.60E-08	0.122349	18.25	0.553615	-0.007116	0.183373
0.400E-08	0.120742	18.36	0.546389	-0.007210	0.180979
0.250E-08	0.119147	18.48	0.539199	-0.007306	0.178597
0.160E-08	0.117679	18.59	0.532624	-0.007397	0.176418
0.100E-08	0.116194	18.70	0.525949	-0.007491	0.174207
0.60E-09	0.114786	18.80	0.519622	-0.007582	0.172111
0.400E-09	0.113449	18.90	0.513617	-0.007670	0.170122
0.250E-09	0.112113	19.01	0.507614	-0.007761	0.168133
0.160E-09	0.110886	19.10	0.502103	-0.007846	0.166307
0.100E-09	0.109635	19.20	0.496485	-0.007935	0.164446
0.60E-10	0.108445	19.30	0.491141	-0.008022	0.162675
0.400E-10	0.107312	19.39	0.486049	-0.008106	0.160989
0.250E-10	0.106174	19.48	0.480942	-0.008192	0.159297
0.160E-10	0.105126	19.57	0.476237	-0.008273	0.157738
0.100E-10	0.104055	19.65	0.471427	-0.008357	0.156144
0.60E-11	0.103032	19.74	0.466836	-0.008439	0.154623
0.400E-11	0.102055	19.82	0.462449	-0.008519	0.153170
0.250E-11	0.101072	19.91	0.458037	-0.008601	0.151708
0.160E-11	0.100164	19.99	0.453961	-0.008679	0.150357
0.100E-11	0.099233	20.07	0.449782	-0.008759	0.148973
0.60E-12	0.098342	20.15	0.445784	-0.008838	0.147648
0.400E-12	0.097488	20.22	0.441955	-0.008915	0.146380
0.250E-12	0.096628	20.30	0.438094	-0.008993	0.145100
0.160E-12	0.095831	20.37	0.434519	-0.009067	0.143916
0.100E-12	0.095012	20.44	0.430847	-0.009144	0.142699
0.60E-13	0.094227	20.52	0.427325	-0.009220	0.141532
0.400E-13	0.093474	20.59	0.423945	-0.009293	0.140412
0.250E-13	0.092712	20.66	0.420530	-0.009369	0.139281
0.160E-13	0.092006	20.72	0.417362	-0.009440	0.138231
0.100E-13	0.091279	20.79	0.414102	-0.009514	0.137151
0.60E-14	0.090580	20.86	0.410969	-0.009587	0.136113
0.400E-14	0.089908	20.92	0.407958	-0.009658	0.135115
0.250E-14	0.089228	20.99	0.404910	-0.009731	0.134105
0.160E-14	0.088596	21.05	0.402078	-0.009799	0.133166
0.100E-14	0.087945	21.12	0.399158	-0.009871	0.132199

# BASEBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.220134	13.15	0.966668	-0.010461	0.124741
0.430E-03	0.211509	13.49	0.950513	-0.007193	0.181423
0.400E-03	0.203909	13.81	0.928164	-0.005345	0.244122
0.250E-03	0.196817	14.12	0.899334	-0.004513	0.289159
0.160E-03	0.190701	14.39	0.870199	-0.004346	0.300258
0.100E-03	0.184817	14.67	0.841011	-0.004455	0.292937
0.630E-04	0.179516	14.92	0.814951	-0.004644	0.280960
0.400E-04	0.174710	15.15	0.791821	-0.004837	0.269766
0.250E-04	0.170110	15.39	0.770111	-0.005022	0.259853
0.160E-04	0.166052	15.60	0.751244	-0.005181	0.251875
0.100E-04	0.162048	15.81	0.732916	-0.005334	0.244638
0.630E-05	0.158410	16.00	0.716213	-0.005474	0.238392
0.400E-05	0.155038	16.19	0.700892	-0.005603	0.232880
0.250E-05	0.151760	16.38	0.686046	-0.005731	0.227683
0.160E-05	0.148827	16.55	0.672792	-0.005848	0.223128
0.100E-05	0.145909	16.72	0.659429	-0.005968	0.218661
0.630E-06	0.143198	16.88	0.647408	-0.006082	0.214548
0.400E-06	0.140670	17.04	0.636024	-0.006192	0.210737
0.250E-06	0.138187	17.19	0.624847	-0.006304	0.207009
0.160E-06	0.135944	17.33	0.614752	-0.006408	0.203650
0.100E-06	0.133493	17.48	0.604625	-0.006515	0.200286
0.630E-07	0.131583	17.62	0.595133	-0.006619	0.197136
0.400E-07	0.129600	17.75	0.586216	-0.006720	0.194178
0.250E-07	0.127638	17.88	0.577393	-0.006823	0.191253
0.160E-07	0.125853	18.00	0.569367	-0.006919	0.188593
0.100E-07	0.124050	18.13	0.561261	-0.007019	0.185907
0.630E-08	0.122349	18.25	0.553615	-0.007116	0.183373
0.400E-08	0.120742	18.36	0.546389	-0.007210	0.180979
0.250E-08	0.119142	18.48	0.539199	-0.007306	0.178597
0.160E-08	0.117679	18.59	0.532624	-0.007397	0.176418
0.100E-08	0.116194	18.70	0.525949	-0.007491	0.174207
0.630E-09	0.114786	18.80	0.519622	-0.007582	0.172111
0.400E-09	0.113449	18.90	0.513617	-0.007670	0.170122
0.250E-09	0.112113	19.01	0.507614	-0.007761	0.168133
0.160E-09	0.110886	19.10	0.502103	-0.007846	0.166307
0.100E-09	0.109635	19.20	0.496485	-0.007935	0.164446

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITE RATE = 12532600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.108445	19.30	0.491141	-0.008022	0.162675
0.400E-10	0.107312	19.39	0.486049	-0.008106	0.160989
0.250E-10	0.106174	19.48	0.480942	-0.008192	0.159297
0.160E-10	0.105126	19.57	0.476237	-0.008273	0.157738
0.100E-10	0.104055	19.65	0.471427	-0.008357	0.156144
0.630E-11	0.103032	19.74	0.466836	-0.008439	0.154623
0.400E-11	0.102055	19.82	0.462449	-0.008519	0.153170
0.250E-11	0.101072	19.91	0.458037	-0.008601	0.151708
0.160E-11	0.100164	19.99	0.453961	-0.008679	0.150337
0.100E-11	0.099233	20.07	0.449782	-0.008759	0.148973
0.630E-12	0.098342	20.15	0.445784	-0.008838	0.147648
0.400E-12	0.097488	20.22	0.441955	-0.008915	0.146380
0.250E-12	0.096628	20.30	0.438094	-0.008993	0.145100
0.160E-12	0.095831	20.37	0.434519	-0.009067	0.143916
0.100E-12	0.095012	20.44	0.430847	-0.009144	0.142699
0.630E-13	0.094227	20.52	0.427325	-0.009220	0.141532
0.400E-13	0.093474	20.59	0.423945	-0.009293	0.140412
0.250E-13	0.092712	20.66	0.420730	-0.009369	0.139281
0.160E-13	0.092006	20.72	0.417362	-0.009440	0.138231
0.100E-13	0.091279	20.79	0.414102	-0.009514	0.137151
0.630E-14	0.090580	20.86	0.410969	-0.009587	0.136113
0.400E-14	0.089908	20.92	0.407958	-0.009658	0.135115
0.250E-14	0.089228	20.99	0.404910	-0.009731	0.134105
0.160E-14	0.088596	21.05	0.402078	-0.009799	0.133166
0.100E-14	0.087945	21.12	0.399158	-0.009871	0.132199

## NOTATION:

- = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- = RMS NOISE TO RMS SIGNAL RATIO.
- = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- = ADAPTIVE THRESHOLD AMPLITUDE TO A RATIO.
- = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552800. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

B-52

020464  
 21.18 0.403522 -0.009782 0.133398  
 21.25 0.400646 -0.009853 0.132440  
 C.160E-14 C.087265  
 C.100E-14 0.086613

# BASEBAND FVF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.219422	13.17	0.966670	-0.010461	0.124734
0.630E-03	0.210772	13.52	0.950517	-0.007193	0.181411
0.400E-03	0.203148	13.84	0.928170	-0.005346	0.244105
0.250E-03	0.196032	14.15	0.899343	-0.004513	0.289138
0.160E-02	0.189894	14.43	0.870213	-0.004344	0.300235
0.100E-03	0.183988	14.70	0.841029	-0.004455	0.292913
0.630E-04	0.178665	14.96	0.814976	-0.004645	0.280936
0.400E-04	0.173839	15.20	0.791852	-0.004838	0.269741
0.250E-04	0.169219	15.43	0.770150	-0.005022	0.259828
0.160E-04	0.165142	15.64	0.751290	-0.005181	0.251850
0.100E-04	0.161139	15.86	0.732971	-0.005335	0.244613
0.630E-05	0.157463	16.06	0.716279	-0.005474	0.238367
0.400E-05	0.154073	16.25	0.700967	-0.005604	0.232855
0.250E-05	0.150778	16.43	0.686133	-0.005732	0.227659
0.160E-05	0.147829	16.60	0.672891	-0.005849	0.223105
0.100E-05	0.144895	16.78	0.659741	-0.005968	0.218639
0.630E-06	0.142168	16.94	0.647534	-0.006083	0.214527
0.400E-06	0.139626	17.10	0.636165	-0.006193	0.210718
0.250E-06	0.137129	17.26	0.625003	-0.006304	0.206992
0.160E-06	0.134872	17.40	0.614924	-0.006408	0.203635
0.100E-06	0.132608	17.55	0.604814	-0.006516	0.200272
0.630E-07	0.130485	17.69	0.595341	-0.006620	0.197125
0.400E-07	0.128490	17.82	0.586443	-0.006720	0.194170
0.250E-07	0.126516	17.96	0.577640	-0.006823	0.191248
0.160E-07	0.124719	18.08	0.569634	-0.006919	0.188590
0.100E-07	0.122905	18.21	0.561550	-0.007019	0.185908
0.630E-08	0.121193	18.33	0.553926	-0.007116	0.183378
0.400E-08	0.119576	18.45	0.546724	-0.007210	0.180987
0.250E-08	0.117966	18.56	0.539558	-0.007306	0.178609
0.160E-08	0.116493	18.67	0.533007	-0.007396	0.176435
0.100E-08	0.114999	18.79	0.526358	-0.007490	0.174228
0.630E-09	0.113582	18.89	0.520058	-0.007581	0.172137
0.400E-09	0.112237	19.00	0.514080	-0.007669	0.170152
0.250E-09	0.110893	19.10	0.508106	-0.007760	0.168169
0.160E-09	0.109658	19.20	0.502622	-0.007844	0.166348
0.100E-09	0.108400	19.30	0.497035	-0.007933	0.164493

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- A / D RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- DERIV PER WRT TIME CONSTANT = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIRR EQUALS 0.0400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.107203	19.40	0.491721	-0.008019	0.162728
0.400E-10	0.106062	19.49	0.486660	-0.008103	0.161047
0.250E-10	0.104912	19.58	0.481585	-0.008188	0.159361
0.160E-10	0.103865	19.67	0.476912	-0.008269	0.157809
0.100E-10	0.102737	19.76	0.472135	-0.008353	0.156222
0.630E-11	0.101759	19.85	0.467578	-0.008435	0.154708
0.400E-11	0.100777	19.93	0.463226	-0.008514	0.153261
0.250E-11	0.099789	20.02	0.458849	-0.008596	0.151806
0.160E-11	0.098876	20.10	0.454807	-0.008673	0.150463
0.100E-11	0.097940	20.18	0.450666	-0.008753	0.149086
0.630E-12	0.097045	20.26	0.446705	-0.008831	0.147769
0.400E-12	0.096188	20.34	0.442913	-0.008907	0.146508
0.250E-12	0.095323	20.42	0.439090	-0.008985	0.145237
0.160E-12	0.094523	20.49	0.435553	-0.009058	0.144060
0.100E-12	0.093701	20.57	0.431920	-0.009135	0.142852
0.630E-13	0.092913	20.64	0.428438	-0.009209	0.141693
0.400E-13	0.092157	20.71	0.425097	-0.009282	0.140581
0.250E-13	0.091392	20.78	0.421724	-0.009357	0.139459
0.160E-13	0.090684	20.85	0.418595	-0.009427	0.138418
0.100E-13	0.089954	20.92	0.415377	-0.009501	0.137346
0.630E-14	0.089254	20.99	0.412287	-0.009573	0.136317
0.400E-14	0.088580	21.05	0.409312	-0.009643	0.135328
0.250E-14	0.087899	21.12	0.406312	-0.009714	0.134328
0.160E-14	0.087265	21.18	0.403522	-0.009782	0.133398
0.100E-14	0.086613	21.25	0.400646	-0.009853	0.132440

NOTATION:  
D

AIRR  
N / S RATIO  
SNR  
A / D RATIO  
DERIV PER WRT  
TIME CONSTANT

= HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE  
= THE THREE LEVEL EYE I.E., DECISION LEVEL.  
= AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.  
= RMS NOISE TO RMS SIGNAL RATIO.  
= SIGNAL POWER TO NOISE POWER IN DECIBELS.  
= ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.  
= DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.  
= QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD  
LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES  
WHEN BITE RATE = 12552600. AND ERROR SIGNAL  
DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 13.14. DEBUS - RINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.218245	13.22	0.966677	-0.010464	0.124706
0.30E-03	0.209554	13.57	0.950531	-0.007195	0.181362
0.400E-03	0.201892	13.90	0.928195	-0.005347	0.244031
0.250E-03	0.194739	14.21	0.899383	-0.004515	0.289047
0.160E-03	0.188567	14.49	0.870270	-0.004348	0.300137
0.100E-03	0.182627	14.77	0.841108	-0.004457	0.292810
0.30E-04	0.177273	15.03	0.815079	-0.004647	0.280831
0.500E-04	0.172418	15.27	0.791982	-0.004840	0.269634
0.250E-04	0.167769	15.51	0.770310	-0.005024	0.259720
0.160E-04	0.163666	15.72	0.751482	-0.005184	0.251742
0.100E-04	0.159637	15.94	0.733199	-0.005337	0.244505
0.30E-05	0.155937	16.14	0.716544	-0.005477	0.238260
0.400E-05	0.152526	16.33	0.701273	-0.005607	0.232749
0.250E-05	0.149209	16.52	0.686484	-0.005734	0.227555
0.160E-05	0.146240	16.70	0.673287	-0.005852	0.223004
0.100E-05	0.143288	16.88	0.660187	-0.005971	0.218541
0.30E-06	0.140543	17.04	0.648033	-0.006085	0.214433
0.400E-06	0.137985	17.20	0.636717	-0.006195	0.210628
0.250E-06	0.135472	17.36	0.625614	-0.006307	0.206908
0.160E-06	0.133202	17.51	0.615593	-0.006411	0.203556
0.100E-06	0.130924	17.64	0.605546	-0.006518	0.200201
0.30E-07	0.128769	17.80	0.596138	-0.006622	0.197060
0.400E-07	0.126783	17.94	0.587306	-0.006722	0.194113
0.250E-07	0.124799	18.08	0.578574	-0.006825	0.191199
0.160E-07	0.122994	18.20	0.570637	-0.006921	0.188351
0.100E-07	0.121171	18.33	0.562628	-0.007020	0.185878
0.30E-08	0.119452	18.46	0.555079	-0.007117	0.183358
0.400E-08	0.117828	18.58	0.547953	-0.007210	0.180978
0.250E-08	0.116212	18.69	0.540868	-0.007306	0.178611
0.160E-08	0.114735	18.81	0.534395	-0.007395	0.176448
0.100E-08	0.113236	18.92	0.527830	-0.007489	0.174253
0.30E-09	0.111815	19.03	0.521614	-0.007579	0.172174
0.400E-09	0.110467	19.14	0.515719	-0.007667	0.170202
0.250E-09	0.109121	19.24	0.509833	-0.007757	0.168232
0.160E-09	0.107885	19.34	0.504434	-0.007841	0.166424
0.100E-09	0.106625	19.44	0.498937	-0.007929	0.164582
0.30E-10	0.105428	19.54	0.493713	-0.008014	0.162831
0.400E-10	0.104287	19.64	0.488741	-0.008097	0.161164
0.250E-10	0.103144	19.73	0.483760	-0.008182	0.159493
0.160E-10	0.102091	19.82	0.479176	-0.008261	0.157954
0.100E-10	0.101015	19.91	0.474494	-0.008344	0.156382
0.30E-11	0.099988	20.00	0.470030	-0.008425	0.154883
0.400E-11	0.099008	20.09	0.465770	-0.008504	0.153451
0.250E-11	0.098022	20.17	0.461490	-0.008584	0.152011
0.160E-11	0.097112	20.25	0.457540	-0.008660	0.150683
0.100E-11	0.096180	20.34	0.453496	-0.008739	0.149321
0.30E-12	0.095288	20.42	0.449630	-0.008816	0.148019
0.400E-12	0.094435	20.50	0.445932	-0.008891	0.146773
0.250E-12	0.093574	20.58	0.442207	-0.008967	0.145517
0.160E-12	0.092778	20.65	0.438762	-0.009040	0.144355
0.100E-12	0.091961	20.73	0.435227	-0.009115	0.143162
0.30E-13	0.091177	20.80	0.431841	-0.009188	0.142019
0.400E-13	0.090426	20.87	0.428594	-0.009260	0.140922
0.250E-13	0.089667	20.95	0.425318	-0.009333	0.139815
0.160E-13	0.088963	21.02	0.422282	-0.009402	0.138788
EXP UNDERFLO AT LOCATION	020464				
EXP UNDERFLO AT LOCATION	020464				
EXP UNDERFLO AT LOCATION	020464				
EXP UNDERFLO AT LOCATION	020464				
0.100E-13	0.088240	21.09	0.419161	-0.009474	0.137732
0.30E-14	0.087545	21.16	0.416168	-0.009545	0.136718
0.400E-14	0.086877	21.22	0.413288	-0.009613	0.135743
0.250E-14	0.086201	21.29	0.410380	-0.009683	0.134757
EXP UNDERFLO AT LOCATION	020464				

AD JACRFL	AT LOCATION	020464	
EXP UNDERFLO	AT LOCATION	020464	
EXP UNDERFLO	AT LOCATION	020464	
0.100E-14	0.085574	21.35	0.407680
EXP UNDERFLO	AT LOCATION	020464	-0.009750
0.100E-14	0.084927	21.42	0.404900
			-0.009819
			0.132898

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.218245	13.22	0.966677	-0.010464	0.124706
0.630E-03	0.209554	13.57	0.950531	-0.007195	0.181362
0.400E-03	0.201892	13.90	0.928195	-0.005347	0.244031
0.250E-03	0.194739	14.21	0.899383	-0.004515	0.289047
0.160E-03	0.188567	14.49	0.870270	-0.004348	0.300137
0.100E-03	0.182627	14.77	0.841108	-0.004457	0.292810
0.630E-04	0.177273	15.03	0.815079	-0.004647	0.280831
0.400E-04	0.172418	15.27	0.791982	-0.004840	0.269634
0.250E-04	0.167769	15.51	0.770310	-0.005024	0.259720
0.160E-04	0.163666	15.72	0.751482	-0.005166	0.251742
0.100E-04	0.159637	15.94	0.733199	-0.005337	0.244505
0.630E-05	0.155937	16.14	0.716544	-0.005477	0.238260
0.400E-05	0.152524	16.33	0.701273	-0.005607	0.232749
0.250E-05	0.149209	16.52	0.686484	-0.005734	0.227555
0.160E-05	0.146240	16.70	0.673287	-0.005852	0.223004
0.100E-05	0.143288	16.88	0.660187	-0.005971	0.218541
0.630E-06	0.140543	17.04	0.648033	-0.006085	0.214433
0.400E-06	0.137985	17.20	0.636717	-0.006195	0.210628
0.250E-06	0.135472	17.36	0.625614	-0.006307	0.206908
0.160E-06	0.133202	17.51	0.615593	-0.006411	0.203556
0.100E-06	0.130924	17.66	0.605546	-0.006518	0.200201
0.630E-07	0.128789	17.80	0.596138	-0.006622	0.197060
0.400E-07	0.126783	17.94	0.587306	-0.006722	0.194113
0.250E-07	0.124799	18.08	0.578574	-0.006825	0.191199
0.160E-07	0.122994	18.20	0.570637	-0.006921	0.188551
0.100E-07	0.121171	18.33	0.562628	-0.007020	0.185878
0.630E-08	0.119452	18.46	0.555079	-0.007117	0.183358
0.400E-08	0.117828	18.58	0.547953	-0.007210	0.180978
0.250E-08	0.116212	18.69	0.540868	-0.007306	0.178611
0.160E-08	0.114735	18.81	0.534395	-0.007395	0.176448
0.100E-08	0.113236	18.92	0.527830	-0.007489	0.174253
0.630E-09	0.111815	19.03	0.521614	-0.007579	0.172174
0.400E-09	0.110467	19.14	0.515719	-0.007667	0.170202
0.250E-09	0.109121	19.24	0.509833	-0.007757	0.168232
0.160E-09	0.107885	19.34	0.504434	-0.007841	0.166424
0.100E-09	0.106625	19.44	0.498937	-0.007929	0.164582

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DFRIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND P/F PATTERN MONITOR TABLES

TABLE FOR A/D EQUALS 0.0600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.105428	19.54	0.493713	-0.008014	0.162831
0.400E-10	0.104287	19.64	0.488741	-0.008097	0.161164
0.250E-10	0.103144	19.73	0.483760	-0.008182	0.159493
0.160E-10	0.102091	19.82	0.479174	-0.008261	0.157954
0.100E-10	0.101015	19.91	0.474494	-0.008344	0.156382
0.630E-11	0.099988	20.00	0.470030	-0.008425	0.154883
0.400E-11	0.099008	20.09	0.465770	-0.008504	0.153451
0.250E-11	0.098022	20.17	0.461490	-0.008584	0.152011
0.160E-11	0.097112	20.25	0.457540	-0.008660	0.150683
0.100E-11	0.096180	20.34	0.453496	-0.008739	0.149321
0.630E-12	0.095288	20.42	0.449630	-0.008816	0.148019
0.400E-12	0.094435	20.50	0.445932	-0.008891	0.146773
0.250E-12	0.093574	20.58	0.442207	-0.008967	0.145517
0.160E-12	0.092778	20.65	0.438762	-0.009040	0.144355
0.100E-12	0.091961	20.73	0.435227	-0.009115	0.143182
0.630E-13	0.091177	20.80	0.431841	-0.009188	0.142019
0.400E-13	0.090476	20.87	0.428594	-0.009260	0.140922
0.250E-13	0.089667	20.95	0.425318	-0.009333	0.139815
0.160E-13	0.088963	21.02	0.422222	-0.009402	0.138768
0.100E-13	0.088240	21.09	0.419181	-0.009474	0.137732
0.630E-14	0.087545	21.16	0.416165	-0.009545	0.136718
0.400E-14	0.086877	21.22	0.413288	-0.009613	0.135743
0.250E-14	0.086201	21.29	0.410380	-0.009683	0.134757
0.160E-14	0.085574	21.35	0.407480	-0.009750	0.133842
0.100E-14	0.084927	21.42	0.404900	-0.009819	0.132898

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THE THREE LEVEL EYE I.E., DECISION LEVEL.
- A/D = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE RATE = 12522600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.



0.100E-13	0.086382	21.27	0.425747	-0.009458	0.137976
0.30E-14	0.085699	21.34	0.422874	-0.009327	0.136971
0.50E-14	0.085042	21.41	0.420116	-0.009195	0.136005
0.70E-14	0.084378	21.48	0.417329	-0.009064	0.135028
0.90E-14	0.083761	21.54	0.414744	-0.008929	0.134120
0.100E-14	0.083126	21.61	0.412082	-0.008798	0.133185

# BASFBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PFR WRT A / D	TIME CONSTANT
0.100F-02	0.216611	13.29	0.966698	-0.010470	0.124632
0.300E-03	0.207868	13.44	0.950568	-0.007200	0.181234
0.400F-03	0.200159	13.97	0.928258	-0.005351	0.243840
0.250F-03	0.192960	14.29	0.899485	-0.004518	0.268810
0.160F-03	0.186748	14.57	0.870417	-0.004351	0.299880
0.100F-03	0.180769	14.86	0.841310	-0.004461	0.292542
0.300E-04	0.175379	15.12	0.815341	-0.004651	0.280556
0.400E-04	0.170491	15.37	0.792310	-0.004845	0.269356
0.250E-04	0.165812	15.61	0.770712	-0.005030	0.259439
0.160E-04	0.161682	15.83	0.751960	-0.005189	0.251460
0.100E-04	0.157628	16.05	0.733763	-0.005343	0.244223
0.300E-05	0.153905	16.25	0.717198	-0.005483	0.237978
0.400E-05	0.150474	16.45	0.702021	-0.005613	0.232469
0.250E-05	0.147139	16.65	0.687334	-0.005741	0.227278
0.160E-05	0.144155	16.82	0.674240	-0.005859	0.222730
0.100E-05	0.141189	17.00	0.661253	-0.005978	0.218272
0.300E-06	0.138433	17.18	0.649214	-0.006093	0.214171
0.400E-06	0.135865	17.34	0.638016	-0.006203	0.210374
0.250E-06	0.133344	17.50	0.627038	-0.006314	0.206661
0.160E-06	0.131068	17.65	0.617140	-0.006418	0.203319
0.100E-06	0.128785	17.80	0.607226	-0.006525	0.199974
0.300E-07	0.126647	17.95	0.597951	-0.006629	0.196844
0.400E-07	0.124639	18.09	0.589253	-0.006729	0.193909
0.250E-07	0.122654	18.23	0.580662	-0.006832	0.191008
0.160E-07	0.120850	18.36	0.572861	-0.006927	0.188372
0.100E-07	0.119029	18.49	0.564996	-0.007026	0.185713
0.300E-08	0.117313	18.61	0.557592	-0.007123	0.183207
0.400E-08	0.115692	18.73	0.550609	-0.007216	0.180842
0.250E-08	0.114081	18.86	0.543673	-0.007311	0.178490
0.160E-08	0.112609	18.97	0.537342	-0.007400	0.176341
0.100E-08	0.111117	19.08	0.530928	-0.007493	0.174162
0.300E-09	0.109703	19.20	0.524861	-0.007582	0.172098
0.400E-09	0.108363	19.30	0.519113	-0.007670	0.170141
0.250E-09	0.107024	19.41	0.513378	-0.007759	0.168187
0.160E-09	0.105796	19.51	0.508123	-0.007842	0.166394
0.100E-09	0.104546	19.61	0.502777	-0.007929	0.164568

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PFR WRT TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.0800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

FIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.103358	19.71	0.497701	-0.008014	0.162833
0.400E-10	0.102227	19.81	0.492874	-0.008096	0.161181
0.250E-10	0.101094	19.91	0.488043	-0.008180	0.159525
0.160E-10	0.100051	20.00	0.483599	-0.008259	0.158001
0.100E-10	0.098986	20.09	0.479065	-0.008341	0.156444
0.630E-11	0.097971	20.18	0.474746	-0.008421	0.154959
0.400E-11	0.097001	20.26	0.470626	-0.008499	0.153541
0.250E-11	0.096027	20.35	0.466490	-0.008578	0.152116
0.160E-11	0.095128	20.43	0.462876	-0.008653	0.150800
0.100E-11	0.094207	20.52	0.458774	-0.008731	0.149452
0.630E-12	0.093327	20.60	0.455046	-0.008807	0.148163
0.400E-12	0.092485	20.68	0.451482	-0.008881	0.146930
0.250E-12	0.091636	20.76	0.447895	-0.008957	0.145686
0.160E-12	0.090852	20.83	0.444579	-0.009028	0.144536
0.100E-12	0.090046	20.91	0.441178	-0.009103	0.143355
0.630E-13	0.089274	20.99	0.437923	-0.009175	0.142222
0.400E-13	0.088534	21.06	0.434803	-0.009246	0.141136
0.250E-13	0.087787	21.13	0.431656	-0.009318	0.140039
0.160E-13	0.087095	21.20	0.428742	-0.009386	0.139022
0.100E-13	0.086382	21.27	0.425747	-0.009458	0.137976
0.630E-14	0.085699	21.34	0.422874	-0.009527	0.136971
0.400E-14	0.085042	21.41	0.420116	-0.009595	0.136005
0.250E-14	0.084378	21.48	0.417329	-0.009664	0.135028
0.160E-14	0.083761	21.54	0.414744	-0.009729	0.134120
0.100E-14	0.083126	21.61	0.412082	-0.009798	0.133185

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I-E. DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL TIME CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 13. 15 MINUTE PRINTOUT MODEL. TABLE WAS CALLED.

0.100E-02	0.214535	13.37	0.960738	-0.010483	0.124481
0.630E-03	0.205734	13.73	0.950642	-0.007210	0.180974
0.400E-03	0.197973	14.07	0.928385	-0.005360	0.243455
0.250E-03	0.190725	14.39	0.899689	-0.004526	0.288332
0.160E-03	0.184471	14.68	0.870709	-0.004359	0.299360
0.100E-03	0.178453	14.97	0.841709	-0.004469	0.292001
0.630E-04	0.173030	15.24	0.815855	-0.004660	0.280003
0.400E-04	0.168114	15.49	0.792947	-0.004855	0.268796
0.250E-04	0.163409	15.73	0.771487	-0.005041	0.258874
0.160E-04	0.159259	15.96	0.752874	-0.005201	0.250890
0.100E-04	0.155187	16.18	0.734833	-0.005356	0.243651
0.630E-05	0.151451	16.39	0.718429	-0.005497	0.237405
0.400E-05	0.148010	16.59	0.703417	-0.005627	0.231897
0.250E-05	0.144667	16.79	0.688908	-0.005756	0.226707
0.160E-05	0.141679	16.97	0.675987	-0.005874	0.222163
0.100E-05	0.138711	17.16	0.663189	-0.005994	0.217710
0.630E-06	0.135956	17.33	0.651339	-0.006109	0.213614
0.400E-06	0.133390	17.50	0.640332	-0.006219	0.209824
0.250E-06	0.130874	17.66	0.629554	-0.006331	0.206120
0.160E-06	0.128605	17.81	0.619849	-0.006435	0.202787
0.100E-06	0.126330	17.97	0.610140	-0.006542	0.199451
0.630E-07	0.124202	18.12	0.601067	-0.006646	0.196332
0.400E-07	0.122205	18.26	0.592570	-0.006747	0.193408
0.250E-07	0.120232	18.40	0.584186	-0.006849	0.190518
0.160E-07	0.118441	18.53	0.576582	-0.006945	0.187893
0.100E-07	0.116634	18.66	0.568924	-0.007044	0.185246
0.630E-08	0.114933	18.79	0.561723	-0.007140	0.182752
0.400E-08	0.113327	18.91	0.554938	-0.007234	0.180397
0.250E-08	0.111733	19.04	0.548205	-0.007329	0.178057
0.160E-08	0.110277	19.15	0.542066	-0.007418	0.175919
0.100E-08	0.108801	19.27	0.535851	-0.007510	0.173751
0.630E-09	0.107405	19.38	0.529978	-0.007600	0.171699
0.400E-09	0.106081	19.49	0.524418	-0.007687	0.169752
0.250E-09	0.104761	19.60	0.518876	-0.007776	0.167807
0.160E-09	0.103550	19.70	0.513801	-0.007860	0.166024
0.100E-09	0.102318	19.80	0.508642	-0.007947	0.164207
0.630E-10	0.101148	19.90	0.503747	-0.008031	0.162480
0.400E-10	0.100034	20.00	0.499095	-0.008113	0.160836
0.250E-10	0.098919	20.09	0.494442	-0.008197	0.159188
0.160E-10	0.097893	20.18	0.490165	-0.008276	0.157670
0.100E-10	0.096846	20.28	0.485802	-0.008358	0.156119
0.630E-11	0.095847	20.37	0.481649	-0.008438	0.154640
0.400E-11	0.094895	20.46	0.477690	-0.008516	0.153228
0.250E-11	0.093938	20.54	0.473716	-0.008596	0.151807
0.160E-11	0.093055	20.63	0.470054	-0.008671	0.150496
0.100E-11	0.092151	20.71	0.466306	-0.008749	0.149152
0.630E-12	0.091287	20.79	0.462731	-0.008825	0.147866
0.400E-12	0.090461	20.87	0.459312	-0.008899	0.146635
0.250E-12	0.089629	20.95	0.455872	-0.008975	0.145394
0.160E-12	0.088859	21.03	0.452694	-0.009046	0.144245
0.100E-12	0.088069	21.10	0.449435	-0.009121	0.143065
0.630E-13	0.087313	21.18	0.446316	-0.009194	0.141934
0.400E-13	0.086587	21.25	0.443327	-0.009265	0.140848
0.250E-13	0.085855	21.32	0.440314	-0.009337	0.139751
0.160E-13	0.085177	21.39	0.437524	-0.009406	0.138733
0.100E-13	0.084479	21.47	0.434657	-0.009477	0.137686
0.630E-14	0.083809	21.53	0.431907	-0.009547	0.136680
0.400E-14	0.083144	21.60	0.429268	-0.009615	0.135712
0.250E-14	0.082516	21.67	0.426601	-0.009685	0.134733
0.160E-14	0.081912	21.73	0.424127	-0.009751	0.133823
0.100E-14	0.081290	21.80	0.421581	-0.009820	0.132885

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.214535	13.37	0.966738	-0.010483	0.124481
0.300E-03	0.205734	13.73	0.950642	-0.007210	0.180974
0.400E-03	0.197973	14.07	0.928385	-0.005360	0.243455
0.500E-03	0.190725	14.39	0.899689	-0.004526	0.288332
0.600E-03	0.184471	14.68	0.870709	-0.004359	0.299360
0.100E-03	0.178453	14.97	0.841709	-0.004469	0.292001
0.300E-04	0.173030	15.24	0.815855	-0.004660	0.280003
0.400E-04	0.168114	15.49	0.792947	-0.004855	0.268796
0.500E-04	0.163409	15.73	0.771487	-0.005041	0.258874
0.160E-04	0.159259	15.96	0.752874	-0.005201	0.250890
0.100E-04	0.155187	16.18	0.734833	-0.005356	0.243651
0.300E-05	0.151451	16.39	0.718429	-0.005497	0.237405
0.400E-05	0.148010	16.59	0.703417	-0.005627	0.231897
0.500E-05	0.144667	16.79	0.689908	-0.005756	0.226707
0.160E-05	0.141679	16.97	0.675987	-0.005874	0.222163
0.100E-05	0.138711	17.16	0.663189	-0.005994	0.217710
0.300E-06	0.135954	17.33	0.651339	-0.006109	0.213614
0.400E-06	0.133390	17.50	0.640332	-0.006217	0.209824
0.500E-06	0.130874	17.66	0.629554	-0.006331	0.206120
0.160E-06	0.128605	17.81	0.619849	-0.006435	0.202787
0.100E-06	0.126330	17.97	0.610140	-0.006542	0.199451
0.300E-07	0.124202	18.12	0.601067	-0.006646	0.196332
0.400E-07	0.122205	18.26	0.592570	-0.006747	0.193408
0.500E-07	0.120232	18.40	0.584186	-0.006849	0.190518
0.160E-07	0.118441	18.53	0.576582	-0.006945	0.187893
0.100E-07	0.116634	18.66	0.568924	-0.007044	0.185246
0.300E-08	0.114933	18.79	0.561723	-0.007140	0.182752
0.400E-08	0.113327	18.91	0.554938	-0.007234	0.180397
0.500E-08	0.111733	19.04	0.548205	-0.007329	0.178057
0.160E-08	0.110277	19.15	0.542066	-0.007418	0.175919
0.100E-08	0.108801	19.27	0.535851	-0.007510	0.173751
0.300E-09	0.107405	19.38	0.529978	-0.007600	0.171699
0.400E-09	0.106081	19.49	0.524418	-0.007687	0.169752
0.500E-09	0.104761	19.60	0.518876	-0.007776	0.167807
0.160E-09	0.103550	19.70	0.513801	-0.007860	0.166024
0.100E-09	0.102318	19.80	0.508642	-0.007947	0.164207

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASFBAND FYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT FROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.101148	19.90	0.503747	-0.008031	0.162480
0.400E-10	0.100034	20.00	0.499095	-0.008113	0.160836
0.250E-10	0.098919	20.09	0.494442	-0.008197	0.159188
0.160E-10	0.097893	20.18	0.490165	-0.008276	0.157670
0.100E-10	0.096846	20.28	0.485802	-0.008358	0.156119
0.630E-11	0.095847	20.37	0.481649	-0.008438	0.154640
0.400E-11	0.094895	20.46	0.477690	-0.008516	0.153228
0.250E-11	0.093938	20.54	0.473716	-0.008596	0.151807
0.160E-11	0.093055	20.63	0.470054	-0.008671	0.150496
0.100E-11	0.092151	20.71	0.466308	-0.008749	0.149152
0.630E-12	0.091287	20.79	0.462731	-0.008825	0.147866
0.400E-12	0.090461	20.87	0.459312	-0.008899	0.146635
0.250E-12	0.089629	20.95	0.455872	-0.008975	0.145394
0.160E-12	0.088859	21.03	0.452694	-0.009046	0.144245
0.100E-12	0.088069	21.10	0.449435	-0.009121	0.143065
0.630E-13	0.087313	21.18	0.446316	-0.009194	0.141934
0.400E-13	0.086587	21.25	0.443327	-0.009265	0.140848
0.250E-13	0.085855	21.32	0.440314	-0.009337	0.139751
0.160E-13	0.085177	21.39	0.437524	-0.009406	0.138733
0.100E-13	0.084479	21.47	0.434657	-0.009477	0.137686
0.630E-14	0.083809	21.53	0.431907	-0.009547	0.136680
0.400E-14	0.083166	21.60	0.429268	-0.009615	0.135712
0.250E-14	0.082516	21.67	0.426601	-0.009685	0.134733
0.160E-14	0.081912	21.73	0.424127	-0.009751	0.133823
0.100E-14	0.081290	21.80	0.421581	-0.009820	0.132885

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO R RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

GROUP 4 IS IN REPOS PRINTOUT NO. 1. TABLE 4.1. (ALL)

0.100E-02	0.212037	13.47	0.966810	-0.010505	0.124218
0.630E-03	0.203176	13.84	0.950771	-0.007228	0.180523
0.490E-03	0.193364	14.18	0.928603	-0.005375	0.242789
0.250E-03	0.188070	14.51	0.900035	-0.004539	0.287508
0.160E-03	0.181780	14.81	0.871202	-0.004372	0.298463
0.100E-03	0.175731	15.10	0.842376	-0.004483	0.291068
0.630E-04	0.170283	15.38	0.816709	-0.004676	0.279053
0.400E-04	0.165348	15.63	0.793998	-0.004872	0.267834
0.250E-04	0.160630	15.88	0.772754	-0.005060	0.257903
0.160E-04	0.156473	16.11	0.754356	-0.005221	0.249914
0.100E-04	0.152397	16.34	0.736549	-0.005377	0.242668
0.630E-05	0.148662	16.56	0.720385	-0.005519	0.236418
0.400E-05	0.145225	16.76	0.705614	-0.005651	0.230907
0.250E-05	0.141890	16.96	0.691359	-0.005781	0.225716
0.160E-05	0.138913	17.15	0.678685	-0.005900	0.221172
0.100E-05	0.135958	17.33	0.666148	-0.006021	0.216720
0.630E-06	0.133219	17.51	0.654558	-0.006137	0.212627
0.400E-06	0.130671	17.68	0.643806	-0.006248	0.208839
0.250E-06	0.128174	17.84	0.633292	-0.006361	0.205139
0.160E-06	0.125925	18.00	0.623837	-0.006466	0.201810
0.100E-06	0.123673	18.15	0.614389	-0.006575	0.198479
0.630E-07	0.121567	18.30	0.605572	-0.006679	0.195365
0.400E-07	0.119593	18.45	0.597322	-0.006781	0.192445
0.250E-07	0.117645	18.59	0.589190	-0.006884	0.189560
0.160E-07	0.115877	18.72	0.581823	-0.006980	0.186940
0.100E-07	0.114096	18.85	0.574410	-0.007080	0.184297
0.630E-08	0.112419	18.98	0.567445	-0.007177	0.181806
0.400E-08	0.110839	19.11	0.560887	-0.007271	0.179456
0.250E-08	0.109269	19.23	0.554385	-0.007367	0.177118
0.160E-08	0.107837	19.34	0.548460	-0.007457	0.174983
0.100E-08	0.106387	19.46	0.542466	-0.007551	0.172817
0.630E-09	0.105015	19.57	0.536804	-0.007642	0.170765
0.400E-09	0.103715	19.68	0.531448	-0.007730	0.168819
0.250E-09	0.102419	19.79	0.526111	-0.007820	0.166875
0.160E-09	0.101231	19.89	0.521226	-0.007904	0.165090
0.100E-09	0.100022	20.00	0.516262	-0.007992	0.163273
0.630E-10	0.098875	20.10	0.511554	-0.008078	0.161544
0.400E-10	0.097783	20.19	0.507081	-0.008161	0.159898
0.250E-10	0.096690	20.29	0.502607	-0.008246	0.158247
0.160E-10	0.095685	20.38	0.498497	-0.008326	0.156726
0.100E-10	0.094659	20.48	0.494305	-0.008409	0.155172
0.630E-11	0.093682	20.57	0.490315	-0.008491	0.153689
0.400E-11	0.092749	20.65	0.486513	-0.008570	0.152271
0.250E-11	0.091812	20.74	0.482697	-0.008651	0.150846
0.160E-11	0.090948	20.82	0.479180	-0.008727	0.149529
0.100E-11	0.090064	20.91	0.475584	-0.008806	0.148179
0.630E-12	0.089218	20.99	0.472150	-0.008884	0.146887
0.400E-12	0.088410	21.07	0.468868	-0.008959	0.145650
0.250E-12	0.087596	21.15	0.465566	-0.009037	0.144402
0.160E-12	0.086843	21.23	0.462515	-0.009110	0.143246
0.100E-12	0.086070	21.30	0.459387	-0.009186	0.142059
0.630E-13	0.085330	21.38	0.456393	-0.009260	0.140920
0.400E-13	0.084621	21.45	0.453525	-0.009332	0.139827
0.250E-13	0.083905	21.52	0.450632	-0.009407	0.138722
0.160E-13	0.083241	21.59	0.447954	-0.009477	0.137697
0.100E-13	0.082559	21.66	0.445202	-0.009550	0.136641
0.630E-14	0.081904	21.73	0.442562	-0.009621	0.135624
0.400E-14	0.081275	21.80	0.440028	-0.009691	0.134651
0.250E-14	0.080640	21.87	0.437468	-0.009763	0.133663
0.160E-14	0.080049	21.93	0.435093	-0.009830	0.132744
0.100E-14	0.079441	22.00	0.432648	-0.009901	0.131797

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.212037	13.47	0.966810	-0.010505	0.124218
0.630E-03	0.203176	13.84	0.950771	-0.007228	0.180523
0.400E-03	0.195164	14.18	0.928603	-0.005375	0.242789
0.250E-03	0.188070	14.51	0.900035	-0.004539	0.287508
0.160E-03	0.181780	14.81	0.871202	-0.004372	0.298463
0.100E-03	0.175731	15.10	0.842376	-0.004483	0.291068
0.630E-04	0.170283	15.38	0.816709	-0.004676	0.279053
0.400E-04	0.165348	15.63	0.793998	-0.004872	0.267834
0.250E-04	0.160630	15.88	0.772754	-0.005060	0.257903
0.160E-04	0.156473	16.11	0.754356	-0.005221	0.249914
0.100E-04	0.152397	16.34	0.736549	-0.005377	0.242668
0.630E-05	0.148662	16.56	0.720385	-0.005519	0.236418
0.400E-05	0.145225	16.76	0.705814	-0.005651	0.230907
0.250E-05	0.141890	16.96	0.691359	-0.005781	0.225716
0.160E-05	0.138913	17.15	0.678685	-0.005900	0.221172
0.100E-05	0.135958	17.33	0.666148	-0.006021	0.216720
0.630E-06	0.133219	17.51	0.654558	-0.006137	0.212627
0.400E-06	0.130671	17.68	0.643806	-0.006248	0.208839
0.250E-06	0.128174	17.84	0.633292	-0.006361	0.205139
0.160E-06	0.125925	18.00	0.623837	-0.006466	0.201810
0.100E-06	0.123673	18.15	0.614389	-0.006575	0.198479
0.630E-07	0.121567	18.30	0.605572	-0.006679	0.195365
0.400E-07	0.119593	18.45	0.597322	-0.006781	0.192445
0.250E-07	0.117845	18.59	0.589190	-0.006884	0.189560
0.160E-07	0.115877	18.72	0.581823	-0.006980	0.186940
0.100E-07	0.114096	18.85	0.574410	-0.007080	0.184297
0.630E-08	0.112419	18.98	0.567445	-0.007177	0.181806
0.400E-08	0.110839	19.11	0.560887	-0.007271	0.179456
0.250E-08	0.109269	19.23	0.554385	-0.007367	0.177118
0.160E-08	0.107837	19.34	0.548460	-0.007457	0.174983
0.100E-08	0.106387	19.46	0.542466	-0.007551	0.172817
0.630E-09	0.105015	19.57	0.536804	-0.007642	0.170765
0.400E-09	0.103715	19.68	0.531448	-0.007730	0.168819
0.250E-09	0.102419	19.79	0.526111	-0.007820	0.166875
0.160E-09	0.101231	19.89	0.521226	-0.007904	0.165090
0.100E-09	0.100022	20.00	0.516262	-0.007992	0.163273

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- SNR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASBRAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.098875	20.10	0.511554	-0.008078	0.161544
0.400E-10	0.097783	20.19	0.507081	-0.008161	0.159898
0.250E-10	0.096690	20.29	0.502607	-0.008246	0.158247
0.160E-10	0.095685	20.38	0.498497	-0.008326	0.156726
0.100E-10	0.094659	20.48	0.494305	-0.008409	0.155172
0.630E-11	0.093682	20.57	0.490315	-0.008491	0.153689
0.400E-11	0.092749	20.65	0.486513	-0.008570	0.152271
0.250E-11	0.091812	20.74	0.482697	-0.008651	0.150866
0.160E-11	0.090948	20.82	0.479180	-0.008727	0.149529
0.100E-11	0.090064	20.91	0.475584	-0.008806	0.148179
0.630E-12	0.089218	20.99	0.472150	-0.008884	0.146887
0.400E-12	0.088410	21.07	0.468868	-0.008959	0.145650
0.250E-12	0.087596	21.15	0.465566	-0.009037	0.144402
0.160E-12	0.086843	21.23	0.462215	-0.009110	0.143246
0.100E-12	0.086070	21.30	0.459387	-0.009186	0.142059
0.630E-13	0.085330	21.38	0.456393	-0.009260	0.140920
0.400E-13	0.084621	21.45	0.453525	-0.009332	0.139827
0.250E-13	0.083905	21.52	0.450832	-0.009407	0.138722
0.160E-13	0.083241	21.59	0.447954	-0.009477	0.137697
0.100E-13	0.082559	21.66	0.445202	-0.009550	0.136641
0.630E-14	0.081904	21.73	0.442562	-0.009621	0.135626
0.400E-14	0.081275	21.80	0.440028	-0.009691	0.134651
0.250E-14	0.080640	21.87	0.437468	-0.009763	0.133663
0.160E-14	0.080049	21.93	0.435093	-0.009830	0.132744
0.100E-14	0.079441	22.00	0.432648	-0.009901	0.131797

## NOTATION:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. 1A. REFERENCE PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.209139	13.59	0.966921	-0.010540	0.123806
0.300E-03	0.200222	13.97	0.950970	-0.007257	0.179823
0.400E-03	0.192365	14.32	0.928938	-0.005398	0.241760
0.250E-03	0.185036	14.65	0.900561	-0.004559	0.286231
0.160E-03	0.178721	14.96	0.871946	-0.003593	0.297074
0.100E-03	0.172654	15.26	0.843375	-0.004505	0.289628
0.630E-04	0.167197	15.54	0.817978	-0.004701	0.277590
0.400E-04	0.162260	15.80	0.795545	-0.004899	0.266357
0.250E-04	0.157546	16.05	0.774599	-0.005089	0.256416
0.160E-04	0.153397	16.28	0.756493	-0.005293	0.248418
0.100E-04	0.149337	16.52	0.739001	-0.005411	0.241164
0.630E-05	0.145620	16.74	0.723149	-0.005555	0.234905
0.400E-05	0.142204	16.94	0.708689	-0.005689	0.229387
0.250E-05	0.138895	17.15	0.694756	-0.005821	0.224190
0.160E-05	0.135944	17.33	0.682387	-0.005941	0.219641
0.100E-05	0.133019	17.52	0.670170	-0.006064	0.215184
0.630E-06	0.130310	17.70	0.658890	-0.006182	0.211087
0.400E-06	0.127793	17.87	0.648439	-0.006295	0.207297
0.250E-06	0.125330	18.04	0.638232	-0.006409	0.203594
0.160E-06	0.123112	18.19	0.629061	-0.006516	0.200262
0.100E-06	0.120894	18.35	0.619907	-0.006626	0.196928
0.630E-07	0.118822	18.50	0.611371	-0.006733	0.193811
0.400E-07	0.116881	18.65	0.603391	-0.006836	0.190889
0.250E-07	0.114967	18.79	0.595531	-0.006941	0.188000
0.160E-07	0.113230	18.92	0.588414	-0.007039	0.185377
0.100E-07	0.111482	19.06	0.581257	-0.007141	0.182729
0.630E-08	0.109837	19.19	0.574536	-0.007240	0.180235
0.400E-08	0.108287	19.31	0.568211	-0.007336	0.177879
0.250E-08	0.106749	19.43	0.561941	-0.007434	0.175536
0.160E-08	0.105346	19.55	0.556231	-0.007526	0.173395
0.100E-08	0.103925	19.67	0.550455	-0.007621	0.171223
0.630E-09	0.102582	19.78	0.545001	-0.007714	0.169165
0.400E-09	0.101310	19.89	0.539841	-0.007804	0.167212
0.250E-09	0.100042	20.00	0.534702	-0.007896	0.165261
0.160E-09	0.098879	20.10	0.529998	-0.007983	0.163469
0.100E-09	0.097697	20.20	0.525218	-0.008073	0.161644
0.630E-10	0.096575	20.30	0.520685	-0.008160	0.159907
0.400E-10	0.095507	20.40	0.516379	-0.008246	0.158252
0.250E-10	0.094439	20.50	0.512072	-0.008333	0.156593
0.160E-10	0.093456	20.59	0.508115	-0.008415	0.155064
0.100E-10	0.092453	20.68	0.504079	-0.008501	0.153501
0.630E-11	0.091498	20.77	0.500238	-0.008584	0.152009
0.400E-11	0.090586	20.86	0.496576	-0.008666	0.150593
0.250E-11	0.089671	20.95	0.492902	-0.008749	0.149149
0.160E-11	0.088826	21.03	0.489515	-0.008827	0.147824
0.100E-11	0.087962	21.11	0.486051	-0.008909	0.146465
0.630E-12	0.087136	21.20	0.482744	-0.008989	0.145164
0.400E-12	0.086346	21.28	0.479582	-0.009067	0.143918
0.250E-12	0.085551	21.36	0.476401	-0.009147	0.142662
0.160E-12	0.084815	21.43	0.473461	-0.009222	0.141498
0.100E-12	0.084061	21.51	0.470446	-0.009301	0.140302
0.630E-13	0.083338	21.58	0.467561	-0.009377	0.139155
0.400E-13	0.082645	21.66	0.464796	-0.009452	0.138053
0.250E-13	0.081945	21.73	0.462007	-0.009529	0.136940
0.160E-13	0.081297	21.80	0.459424	-0.009601	0.135907
0.100E-13	0.080631	21.87	0.456770	-0.009677	0.134844
0.630E-14	0.079992	21.94	0.454224	-0.009751	0.133822
0.400E-14	0.079377	22.01	0.451780	-0.009823	0.132839
0.250E-14	0.078756	22.07	0.449310	-0.009897	0.131844
0.160E-14	0.078180	22.14	0.447016	-0.009967	0.130919
0.100E-14	0.077586	22.20	0.444658	-0.010040	0.129965

# BASERAND FVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1400 2800.  
PSEUDO ERROR RATE EQUALS 1.0 /

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.209139	13.59	0.966921	-0.010540	0.123806
0.30E-03	0.200222	13.97	0.950970	-0.007257	0.179823
0.400E-03	0.192365	14.32	0.928938	-0.005398	0.241760
0.250E-03	0.185036	14.65	0.900561	-0.004559	0.286231
0.160E-03	0.178721	14.96	0.871946	-0.004393	0.297074
0.100E-03	0.172654	15.26	0.843375	-0.004505	0.289628
0.630E-04	0.167197	15.54	0.817978	-0.004701	0.277590
0.400E-04	0.162260	15.80	0.795545	-0.004899	0.266357
0.250E-04	0.157546	16.05	0.774599	-0.005089	0.256416
0.160E-04	0.153397	16.28	0.756493	-0.005253	0.248418
0.100E-04	0.149337	16.52	0.739001	-0.005411	0.241164
0.630E-05	0.145620	16.74	0.723149	-0.005555	0.234905
0.400E-05	0.142204	16.94	0.708689	-0.005689	0.229387
0.250E-05	0.138895	17.15	0.694756	-0.005821	0.224190
0.160E-05	0.135944	17.33	0.682387	-0.005941	0.219641
0.100E-05	0.133019	17.52	0.670170	-0.006064	0.215184
0.630E-06	0.130310	17.70	0.658890	-0.006182	0.211087
0.400E-06	0.127793	17.87	0.648439	-0.006295	0.207297
0.250E-06	0.125330	18.04	0.638232	-0.006409	0.203594
0.160E-06	0.123112	18.19	0.629061	-0.006516	0.200262
0.100E-06	0.120894	18.35	0.619907	-0.006626	0.196928
0.630E-07	0.118822	18.50	0.611371	-0.006733	0.193811
0.400E-07	0.116881	18.65	0.603391	-0.006836	0.190889
0.250E-07	0.114967	18.79	0.595531	-0.006941	0.188000
0.160E-07	0.113230	18.92	0.588414	-0.007039	0.185377
0.100E-07	0.111482	19.06	0.581257	-0.007141	0.182729
0.630E-08	0.109837	19.19	0.574536	-0.007240	0.180235
0.400E-08	0.108287	19.31	0.568211	-0.007336	0.177879
0.250E-08	0.106749	19.43	0.561941	-0.007434	0.175536
0.160E-08	0.105346	19.55	0.556231	-0.007526	0.173395
0.100E-08	0.103925	19.67	0.550455	-0.007621	0.171223
0.630E-09	0.102582	19.78	0.545001	-0.007714	0.169165
0.400E-09	0.101310	19.89	0.539841	-0.007804	0.167212
0.250E-09	0.100042	20.00	0.534702	-0.007896	0.165261
0.160E-09	0.098879	20.10	0.529998	-0.007983	0.163469
0.100E-09	0.097697	20.20	0.525218	-0.008073	0.161644

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BIT RATE = 12552600, AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.430E-10	0.096575	20.30	0.520685	-0.008160	0.159907
0.400E-10	0.095507	20.40	0.516379	-0.008246	0.158252
0.250E-10	0.094439	20.50	0.512072	-0.008333	0.156593
0.160E-10	0.093456	20.59	0.508115	-0.008415	0.155064
0.100E-10	0.092453	20.68	0.504079	-0.008501	0.153501
0.630E-11	0.091498	20.77	0.500238	-0.008584	0.152009
0.400E-11	0.090586	20.86	0.496576	-0.008666	0.150583
0.250E-11	0.089671	20.95	0.492902	-0.008749	0.149149
0.160E-11	0.088826	21.03	0.489515	-0.008827	0.147824
0.100E-11	0.087962	21.11	0.486051	-0.008909	0.146465
0.630E-12	0.087136	21.20	0.482744	-0.008989	0.145164
0.400E-12	0.086346	21.28	0.479582	-0.009067	0.143918
0.250E-12	0.085551	21.36	0.476401	-0.009147	0.142662
0.160E-12	0.084815	21.43	0.473461	-0.009222	0.141498
0.100E-12	0.084061	21.51	0.470446	-0.009301	0.140302
0.630E-13	0.083338	21.58	0.467561	-0.009377	0.139155
0.400E-13	0.082645	21.66	0.464796	-0.009452	0.138053
0.250E-13	0.081945	21.73	0.462007	-0.009529	0.136940
0.160E-13	0.081297	21.80	0.459424	-0.009601	0.135907
0.100E-13	0.080631	21.87	0.456777	-0.009677	0.134844
0.630E-14	0.079992	21.94	0.454224	-0.009751	0.133822
0.400E-14	0.079377	22.01	0.451780	-0.009823	0.132839
0.250E-14	0.078756	22.07	0.449310	-0.009897	0.131844
0.160E-14	0.078180	22.14	0.447018	-0.009967	0.130919
0.100E-14	0.077586	22.20	0.444658	-0.010040	0.129965

## NOTATION:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E. DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITE RATE = 12552600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

TRUNK IS IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.205866	13.73	0.967083	-0.010591	0.123208
0.630E-03	0.196905	14.11	0.951256	-0.007297	0.178818
0.400E-03	0.189016	14.47	0.929412	-0.005641	0.240288
0.250E-03	0.181668	14.81	0.901300	-0.004588	0.284407
0.160E-03	0.175345	15.12	0.872983	-0.004422	0.295092
0.100E-03	0.169279	15.43	0.846754	-0.004538	0.287580
0.630E-04	0.163832	15.71	0.819711	-0.004736	0.275516
0.400E-04	0.158913	15.98	0.797637	-0.004938	0.264272
0.250E-04	0.154223	16.24	0.777069	-0.005131	0.254371
0.160E-04	0.150103	16.47	0.759325	-0.005298	0.246312
0.100E-04	0.146076	16.71	0.742215	-0.005459	0.239048
0.630E-05	0.142395	16.93	0.726736	-0.005606	0.232779
0.400E-05	0.139018	17.14	0.712639	-0.005742	0.227251
0.250E-05	0.135750	17.35	0.699076	-0.005877	0.222043
0.160E-05	0.132840	17.53	0.687051	-0.006000	0.217485
0.100E-05	0.129959	17.72	0.675188	-0.006126	0.213019
0.630E-06	0.127293	17.90	0.664246	-0.006246	0.208914
0.400E-06	0.124819	18.07	0.654118	-0.006362	0.205116
0.250E-06	0.122399	18.24	0.644234	-0.006479	0.201405
0.160E-06	0.120222	18.40	0.635361	-0.006588	0.198045
0.100E-06	0.118047	18.56	0.626508	-0.006701	0.194724
0.630E-07	0.116015	18.71	0.618257	-0.006811	0.191600
0.400E-07	0.114114	18.85	0.610547	-0.006916	0.188669
0.250E-07	0.112239	19.00	0.602956	-0.007024	0.185774
0.160E-07	0.110340	19.13	0.596085	-0.007125	0.183143
0.100E-07	0.108429	19.27	0.589176	-0.007230	0.180497
0.630E-08	0.107220	19.39	0.582689	-0.007332	0.177945
0.400E-08	0.105705	19.52	0.576584	-0.007430	0.175622
0.250E-08	0.104201	19.64	0.570535	-0.007531	0.173272
0.160E-08	0.102830	19.76	0.565024	-0.007626	0.171123
0.100E-08	0.101441	19.88	0.559451	-0.007724	0.168943
0.630E-09	0.100129	19.99	0.554188	-0.007820	0.166878
0.400E-09	0.98886	20.10	0.549208	-0.007912	0.164918
0.250E-09	0.97647	20.21	0.544248	-0.008008	0.162959
0.160E-09	0.96512	20.31	0.539708	-0.008097	0.161161
0.100E-09	0.95357	20.41	0.535094	-0.008190	0.159328
0.630E-10	0.94261	20.51	0.530718	-0.008281	0.157585
0.400E-10	0.93219	20.61	0.526560	-0.008369	0.155924
0.250E-10	0.92176	20.71	0.522400	-0.008459	0.154259
0.160E-10	0.91216	20.80	0.518578	-0.008544	0.152724
0.100E-10	0.90237	20.89	0.514640	-0.008633	0.151155
0.630E-11	0.89304	20.98	0.510968	-0.008719	0.149658
0.400E-11	0.88415	21.07	0.507430	-0.008803	0.148228
0.250E-11	0.87521	21.16	0.503878	-0.008890	0.146789
0.160E-11	0.86697	21.24	0.500604	-0.008971	0.145459
0.100E-11	0.85853	21.32	0.497255	-0.009056	0.144096
0.630E-12	0.85047	21.41	0.494056	-0.009139	0.142792
0.400E-12	0.84276	21.49	0.490998	-0.009219	0.141543
0.250E-12	0.83499	21.57	0.487920	-0.009302	0.140283
0.160E-12	0.82781	21.64	0.485076	-0.009380	0.139117
0.100E-12	0.82045	21.72	0.482158	-0.009461	0.137919
0.630E-13	0.81339	21.79	0.479365	-0.009541	0.136770
0.400E-13	0.80663	21.87	0.476684	-0.009619	0.135666
0.250E-13	0.79988	21.94	0.473987	-0.009698	0.134552
0.160E-13	0.79348	22.01	0.471446	-0.009773	0.133514
0.100E-13	0.78697	22.08	0.468915	-0.009852	0.132454
0.630E-14	0.78073	22.15	0.466448	-0.009928	0.13143
0.400E-14	0.77474	22.22	0.464079	-0.010004	0.13044
0.250E-14	0.76867	22.29	0.461685	-0.010080	0.12945
0.160E-14	0.76305	22.35	0.459463	-0.010153	0.12852
0.100E-14	0.75725	22.42	0.457175	-0.010229	0.12757

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.205866	13.73	0.367083	-0.010591	0.123208
0.630E-03	0.196905	14.11	0.351256	-0.007297	0.178818
0.400E-03	0.189016	14.47	0.329412	-0.003431	0.240288
0.250E-03	0.181668	14.81	0.301300	-0.004588	0.284407
0.160E-03	0.175345	15.12	0.872983	-0.004422	0.295092
0.100E-03	0.169279	15.43	0.844754	-0.004538	0.287580
0.630E-04	0.163832	15.71	0.819711	-0.004736	0.275516
0.400E-04	0.158913	15.98	0.797637	-0.004938	0.264272
0.250E-04	0.154223	16.24	0.777069	-0.005131	0.254321
0.160E-04	0.150103	16.47	0.759325	-0.005298	0.246312
0.100E-04	0.146076	16.71	0.742215	-0.005459	0.239048
0.630E-05	0.142395	16.93	0.726736	-0.005606	0.232779
0.400E-05	0.139018	17.14	0.712639	-0.005742	0.227251
0.250E-05	0.135750	17.35	0.699076	-0.005877	0.222043
0.160E-05	0.132840	17.53	0.687051	-0.006000	0.217485
0.100E-05	0.129959	17.72	0.675188	-0.006126	0.213019
0.630E-06	0.127293	17.90	0.664246	-0.006246	0.208914
0.400E-06	0.124819	18.07	0.654118	-0.006362	0.205116
0.250E-06	0.122399	18.24	0.644234	-0.006479	0.201405
0.160E-06	0.120222	18.40	0.635361	-0.006588	0.198065
0.100E-06	0.118047	18.56	0.626508	-0.006701	0.194724
0.630E-07	0.116015	18.71	0.618257	-0.006811	0.191600
0.400E-07	0.114114	18.85	0.610547	-0.006916	0.188669
0.250E-07	0.112239	19.00	0.602956	-0.007024	0.185774
0.160E-07	0.110540	19.13	0.596085	-0.007125	0.183143
0.100E-07	0.108829	19.27	0.589176	-0.007230	0.180487
0.630E-08	0.107220	19.39	0.582689	-0.007332	0.177985
0.400E-08	0.105705	19.52	0.576584	-0.007430	0.175622
0.250E-08	0.104201	19.64	0.570535	-0.007531	0.173272
0.160E-08	0.102830	19.76	0.565024	-0.007626	0.171123
0.100E-08	0.101441	19.88	0.559451	-0.007724	0.168943
0.630E-09	0.100129	19.99	0.554188	-0.007820	0.166878
0.400E-09	0.098886	20.10	0.549208	-0.007912	0.164918
0.250E-09	0.097647	20.21	0.544244	-0.008008	0.162959
0.160E-09	0.096512	20.31	0.539708	-0.008097	0.161161
0.100E-09	0.095337	20.41	0.535094	-0.008190	0.159328

## NOMENCLATURE:

- HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- RMS NOISE TO RMS SIGNAL RATIO.
- SIGNAL POWER TO NOISE POWER IN DECIBELS.
- ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12532600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND P/F PATTERN MONITOR TABLES

TABLE FOR A/D EQUALS 0.1600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.094261	20.51	0.530718	-0.008281	0.157585
0.400E-10	0.093219	20.61	0.526560	-0.008369	0.155924
0.250E-10	0.092176	20.71	0.522400	-0.008459	0.154259
0.160E-10	0.091216	20.80	0.518578	-0.008544	0.152724
0.100E-10	0.090237	20.89	0.514680	-0.008633	0.151155
0.630E-11	0.089304	20.98	0.510968	-0.008719	0.149658
0.400E-11	0.088415	21.07	0.507430	-0.008803	0.148228
0.250E-11	0.087521	21.16	0.503878	-0.008890	0.146789
0.160E-11	0.086697	21.24	0.500604	-0.008971	0.145459
0.100E-11	0.085853	21.32	0.497255	-0.009056	0.144096
0.630E-12	0.085047	21.41	0.494056	-0.009139	0.142792
0.400E-12	0.084276	21.49	0.490998	-0.009219	0.141543
0.250E-12	0.083499	21.57	0.487920	-0.009302	0.140283
0.160E-12	0.082781	21.64	0.485076	-0.009380	0.139117
0.100E-12	0.082045	21.72	0.482158	-0.009461	0.137919
0.630E-13	0.081339	21.79	0.479365	-0.009541	0.136770
0.400E-13	0.080663	21.87	0.476688	-0.009619	0.135666
0.250E-13	0.079980	21.94	0.473987	-0.009698	0.134552
0.160E-13	0.079348	22.01	0.471486	-0.009773	0.133518
0.100E-13	0.078697	22.08	0.468915	-0.009852	0.132454
0.630E-14	0.078073	22.15	0.466448	-0.009928	0.131431
0.400E-14	0.077474	22.22	0.464079	-0.010003	0.130448
0.250E-14	0.076867	22.29	0.461685	-0.010080	0.129453
0.160E-14	0.076305	22.35	0.459463	-0.010153	0.128529
0.100E-14	0.075725	22.42	0.457175	-0.010229	0.127575

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- A/D = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- S/N = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TRUNK IS IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.202249	13.88	0.967304	-0.010662	0.122390
0.300E-03	0.193259	14.28	0.951640	-0.007353	0.177457
0.400E-03	0.183358	14.64	0.930044	-0.005476	0.238309
0.250E-03	0.178011	14.99	0.902274	-0.004628	0.281957
0.160E-03	0.171701	15.30	0.874337	-0.004462	0.292434
0.100E-03	0.165660	15.62	0.846538	-0.004581	0.284845
0.630E-04	0.160246	15.90	0.821930	-0.004784	0.272760
0.400E-04	0.155366	16.17	0.800288	-0.004990	0.261510
0.250E-04	0.150721	16.44	0.780165	-0.005187	0.251555
0.160E-04	0.146648	16.67	0.762838	-0.005358	0.243541
0.100E-04	0.142674	16.91	0.746158	-0.005523	0.236268
0.630E-05	0.139047	17.14	0.731093	-0.005674	0.229990
0.400E-05	0.135723	17.35	0.717391	-0.005814	0.224452
0.250E-05	0.132510	17.56	0.704222	-0.005952	0.219235
0.160E-05	0.129652	17.74	0.692558	-0.006079	0.214668
0.100E-05	0.126825	17.94	0.681061	-0.006208	0.210194
0.630E-06	0.124212	18.12	0.670464	-0.006332	0.206080
0.400E-06	0.121789	18.29	0.660660	-0.006451	0.202275
0.250E-06	0.119420	18.46	0.651097	-0.006572	0.198557
0.160E-06	0.117290	18.61	0.642515	-0.006685	0.195211
0.100E-06	0.115162	18.77	0.633954	-0.006801	0.191864
0.630E-07	0.113176	18.92	0.625977	-0.006914	0.188735
0.400E-07	0.111318	19.07	0.618524	-0.007023	0.185800
0.250E-07	0.109487	19.21	0.611185	-0.007135	0.182899
0.160E-07	0.107827	19.35	0.604543	-0.007239	0.180265
0.100E-07	0.106156	19.48	0.597864	-0.007347	0.177606
0.630E-08	0.104586	19.61	0.591592	-0.007452	0.175101
0.400E-08	0.103106	19.73	0.585690	-0.007554	0.172735
0.250E-08	0.101638	19.86	0.579840	-0.007659	0.170383
0.160E-08	0.100300	19.97	0.574510	-0.007757	0.168233
0.100E-08	0.998945	20.09	0.569119	-0.007858	0.166052
0.630E-09	0.997665	20.21	0.564027	-0.007957	0.163986
0.400E-09	0.996452	20.31	0.559209	-0.008054	0.162026
0.250E-09	0.995243	20.42	0.554408	-0.008152	0.160068
0.160E-09	0.994136	20.52	0.550013	-0.008245	0.158270
0.100E-09	0.993009	20.63	0.545546	-0.008341	0.156440
0.630E-10	0.991940	20.73	0.541308	-0.008435	0.154698
0.400E-10	0.990923	20.83	0.537280	-0.008527	0.153040
0.250E-10	0.989906	20.92	0.533251	-0.008620	0.151377
0.160E-10	0.988970	21.02	0.529547	-0.008708	0.149846
0.100E-10	0.988015	21.11	0.525769	-0.008800	0.148281
0.630E-11	0.987105	21.20	0.522171	-0.008890	0.146788
0.400E-11	0.986237	21.29	0.518740	-0.008977	0.145362
0.250E-11	0.985365	21.37	0.515296	-0.009066	0.143928
0.160E-11	0.984561	21.46	0.512120	-0.009151	0.142603
0.100E-11	0.983738	21.54	0.508870	-0.009239	0.141246
0.630E-12	0.982952	21.62	0.505767	-0.009324	0.139948
0.400E-12	0.982200	21.70	0.502799	-0.009408	0.138705
0.250E-12	0.981443	21.78	0.499811	-0.009494	0.137452
0.160E-12	0.980742	21.86	0.497049	-0.009574	0.136292
0.100E-12	0.980024	21.94	0.494216	-0.009659	0.135101
0.630E-13	0.979336	22.01	0.491503	-0.009741	0.133960
0.400E-13	0.978676	22.08	0.488903	-0.009821	0.132864
0.250E-13	0.978010	22.14	0.486280	-0.009904	0.131758
0.160E-13	0.977393	22.23	0.483849	-0.009982	0.130731
0.100E-13	0.976759	22.30	0.481351	-0.010063	0.129675
0.630E-14	0.976150	22.37	0.478953	-0.010142	0.128661
0.400E-14	0.975565	22.43	0.476651	-0.010220	0.127687
0.250E-14	0.974974	22.50	0.474323	-0.010299	0.126700
0.160E-14	0.974425	22.57	0.472163	-0.010374	0.125784
0.100E-14	0.973860	22.63	0.469938	-0.010453	0.124840

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.202249	13.88	0.967304	-0.010662	0.122390
0.300E-03	0.193259	14.78	0.951640	-0.007353	0.177457
0.600E-03	0.185358	14.84	0.930044	-0.005476	0.238309
0.250E-03	0.178011	14.99	0.902274	-0.004628	0.281957
0.160E-03	0.171701	15.30	0.874337	-0.004462	0.292434
0.100E-03	0.165660	15.42	0.846538	-0.004581	0.284845
0.300E-04	0.160246	15.90	0.821930	-0.004784	0.272760
0.400E-04	0.155366	16.17	0.800288	-0.004990	0.261510
0.250E-04	0.150721	16.44	0.780165	-0.005187	0.251555
0.160E-04	0.146648	16.67	0.762839	-0.005358	0.243541
0.100E-04	0.142674	16.91	0.746158	-0.005523	0.236268
0.300E-05	0.139047	17.14	0.731093	-0.005674	0.229990
0.400E-05	0.135723	17.35	0.717391	-0.005814	0.224452
0.250E-05	0.132510	17.56	0.704222	-0.005952	0.219235
0.160E-05	0.129652	17.74	0.692558	-0.006079	0.214668
0.100E-05	0.126825	17.94	0.681061	-0.006208	0.210194
0.300E-06	0.124212	18.12	0.670464	-0.006332	0.206080
0.400E-06	0.121789	18.29	0.660660	-0.006451	0.202275
0.250E-06	0.119420	18.46	0.651097	-0.006572	0.198557
0.160E-06	0.117290	18.61	0.642515	-0.006685	0.195211
0.100E-06	0.115162	18.77	0.633954	-0.006801	0.191864
0.300E-07	0.113176	18.92	0.625977	-0.006914	0.188735
0.400E-07	0.111318	19.07	0.618524	-0.007023	0.185800
0.250E-07	0.109487	19.21	0.611185	-0.007135	0.182899
0.160E-07	0.107827	19.35	0.604543	-0.007239	0.180265
0.100E-07	0.106156	19.48	0.597864	-0.007347	0.177606
0.300E-08	0.104586	19.61	0.591592	-0.007452	0.175101
0.400E-08	0.103106	19.73	0.585690	-0.007554	0.172735
0.250E-08	0.101638	19.86	0.579840	-0.007659	0.170383
0.160E-08	0.100300	19.97	0.574510	-0.007757	0.168233
0.100E-08	0.098945	20.09	0.569119	-0.007858	0.166052
0.300E-09	0.097665	20.21	0.564027	-0.007957	0.163986
0.400E-09	0.096452	20.31	0.559209	-0.008054	0.162026
0.250E-09	0.095243	20.42	0.554408	-0.008152	0.160068
0.160E-09	0.094134	20.52	0.550013	-0.008245	0.158270
0.100E-09	0.093009	20.63	0.545546	-0.008341	0.156440

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.1800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.430E-10	0.09140	20.73	0.541308	-0.008435	0.154698
0.400E-10	0.090923	20.83	0.537280	-0.008527	0.153040
0.250E-10	0.089906	20.92	0.533251	-0.008620	0.151377
0.160E-10	0.088970	21.02	0.529547	-0.008708	0.149846
0.100E-10	0.088015	21.11	0.525769	-0.008800	0.148281
0.630E-11	0.087105	21.20	0.522171	-0.008890	0.146788
0.400E-11	0.086237	21.29	0.518740	-0.008977	0.145362
0.250E-11	0.085365	21.37	0.515296	-0.009066	0.143928
0.160E-11	0.084561	21.46	0.512120	-0.009151	0.142603
0.100E-11	0.083738	21.54	0.508870	-0.009239	0.141246
0.630E-12	0.082952	21.62	0.505767	-0.009324	0.139948
0.400E-12	0.082200	21.70	0.502799	-0.009408	0.138705
0.250E-12	0.081443	21.78	0.499811	-0.009494	0.137452
0.160E-12	0.080742	21.86	0.497049	-0.009574	0.136292
0.100E-12	0.080024	21.94	0.494216	-0.009659	0.135101
0.630E-13	0.079336	22.01	0.491503	-0.009741	0.133960
0.400E-13	0.078676	22.08	0.488903	-0.009821	0.132864
0.250E-13	0.078010	22.16	0.486280	-0.009904	0.131758
0.160E-13	0.077393	22.23	0.483849	-0.009982	0.130731
0.100E-13	0.076759	22.30	0.481351	-0.010063	0.129675
0.630E-14	0.076150	22.37	0.478953	-0.010142	0.128661
0.400E-14	0.075565	22.43	0.476651	-0.010220	0.127687
0.250E-14	0.074974	22.50	0.474323	-0.010299	0.126700
0.160E-14	0.074425	22.57	0.472163	-0.010374	0.125784
0.100E-14	0.073860	22.63	0.469938	-0.010453	0.124840

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- SNR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12532600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

FIGURE 15. IN DEBUG PRINTOUT MOUT. TABLE WAS CALLED.

0.100E-02	0.198317	14.05	0.967592	-0.010755	0.121325
0.630E-03	0.189321	14.46	0.952134	-0.007427	0.175705
0.400E-03	0.181432	14.83	0.930844	-0.005535	0.235775
0.250E-03	0.174113	15.18	0.903495	-0.004680	0.278827
0.160E-03	0.167841	15.50	0.876018	-0.004515	0.289046
0.100E-03	0.161850	15.82	0.848729	-0.004638	0.281376
0.630E-04	0.156492	16.11	0.824627	-0.004846	0.269284
0.400E-04	0.151671	16.38	0.803474	-0.005057	0.258043
0.250E-04	0.147093	16.65	0.783845	-0.005260	0.248097
0.160E-04	0.143084	16.89	0.764971	-0.005435	0.240088
0.100E-04	0.139177	17.13	0.750751	-0.005605	0.232816
0.630E-05	0.135617	17.35	0.736118	-0.005760	0.226538
0.400E-05	0.132358	17.57	0.722821	-0.005905	0.220998
0.250E-05	0.129211	17.77	0.710053	-0.006047	0.215779
0.160E-05	0.126414	17.96	0.698750	-0.006178	0.211211
0.100E-05	0.123649	18.16	0.687613	-0.006312	0.206736
0.630E-06	0.121094	18.34	0.677351	-0.006440	0.202623
0.400E-06	0.118727	18.51	0.667859	-0.006563	0.198818
0.250E-06	0.116413	18.68	0.658602	-0.006688	0.195102
0.160E-06	0.114334	18.84	0.650293	-0.006805	0.191760
0.100E-06	0.112257	19.00	0.642007	-0.006926	0.188417
0.630E-07	0.110320	19.15	0.634284	-0.007042	0.185292
0.400E-07	0.108507	19.29	0.627068	-0.007156	0.182363
0.250E-07	0.106720	19.44	0.619962	-0.007271	0.179469
0.160E-07	0.105102	19.57	0.613529	-0.007379	0.176841
0.100E-07	0.103472	19.70	0.607060	-0.007491	0.174191
0.630E-08	0.101941	19.83	0.600984	-0.007600	0.171694
0.400E-08	0.100498	19.96	0.595264	-0.007706	0.169338
0.250E-08	0.099067	20.08	0.589594	-0.007814	0.166996
0.160E-08	0.097763	20.20	0.584427	-0.007915	0.164856
0.100E-08	0.096442	20.31	0.579200	-0.008021	0.162887
0.630E-09	0.095194	20.43	0.574262	-0.008124	0.160633
0.400E-09	0.094012	20.54	0.569588	-0.008223	0.158684
0.250E-09	0.092833	20.65	0.564930	-0.008325	0.156739
0.160E-09	0.091753	20.75	0.560665	-0.008421	0.154954
0.100E-09	0.090656	20.85	0.556329	-0.008521	0.153137
0.630E-10	0.089613	20.95	0.552214	-0.008618	0.151410
0.400E-10	0.088622	21.05	0.548303	-0.008713	0.149765
0.250E-10	0.087630	21.15	0.544390	-0.008810	0.148117
0.160E-10	0.086718	21.24	0.540792	-0.008901	0.146600
0.100E-10	0.085787	21.33	0.537121	-0.008996	0.145050
0.630E-11	0.084900	21.42	0.533625	-0.009089	0.143572
0.400E-11	0.084054	21.51	0.530290	-0.009179	0.142161
0.250E-11	0.083205	21.60	0.526942	-0.009272	0.140743
0.160E-11	0.082421	21.68	0.523855	-0.009359	0.139434
0.100E-11	0.081619	21.76	0.520696	-0.009450	0.138092
0.630E-12	0.080853	21.85	0.517677	-0.009538	0.136810
0.400E-12	0.080120	21.93	0.514791	-0.009624	0.135582
0.250E-12	0.079381	22.01	0.511885	-0.009713	0.134346
0.160E-12	0.078699	22.08	0.509198	-0.009797	0.133201
0.100E-12	0.077999	22.16	0.506441	-0.009884	0.132027
0.630E-13	0.077328	22.23	0.503802	-0.009969	0.130901
0.400E-13	0.076685	22.31	0.501271	-0.010052	0.129821
0.250E-13	0.076036	22.38	0.498718	-0.010137	0.128731
0.160E-13	0.075434	22.45	0.496352	-0.010217	0.127720
0.100E-13	0.074816	22.52	0.493920	-0.010301	0.126680
0.630E-14	0.074223	22.59	0.491586	-0.010383	0.125682
0.400E-14	0.073653	22.66	0.489344	-0.010463	0.124722
0.250E-14	0.073076	22.72	0.487078	-0.010545	0.123752
0.160E-14	0.072541	22.79	0.484974	-0.010622	0.122851
0.100E-14	0.071990	22.85	0.482807	-0.010703	0.121923

# BASFBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.198317	14.05	0.967592	-0.010755	0.121325
0.630E-03	0.189321	14.46	0.952134	-0.007427	0.173705
0.400E-03	0.181432	14.83	0.930844	-0.005535	0.235775
0.250E-03	0.174113	15.18	0.903495	-0.004680	0.278827
0.160E-03	0.167841	15.50	0.876018	-0.004515	0.289046
0.100E-03	0.161850	15.82	0.848729	-0.004638	0.281376
0.630E-04	0.156492	16.11	0.824627	-0.004846	0.269284
0.400E-04	0.151671	16.38	0.803474	-0.005057	0.258043
0.250E-04	0.147093	16.65	0.783845	-0.005260	0.248097
0.160E-04	0.143084	16.89	0.766971	-0.005435	0.240088
0.100E-04	0.139177	17.13	0.750751	-0.005605	0.232816
0.630E-05	0.135617	17.35	0.736118	-0.005760	0.226538
0.400E-05	0.132358	17.57	0.722821	-0.005905	0.220998
0.250E-05	0.129211	17.77	0.710053	-0.006047	0.215779
0.160E-05	0.126414	17.96	0.698750	-0.006178	0.211211
0.100E-05	0.123649	18.16	0.687613	-0.006312	0.206736
0.630E-06	0.121094	18.34	0.677351	-0.006440	0.202623
0.400E-06	0.118727	18.51	0.667859	-0.006563	0.198818
0.250E-06	0.116413	18.68	0.658602	-0.006688	0.195102
0.160E-06	0.114334	18.84	0.650293	-0.006805	0.191760
0.100E-06	0.112357	19.00	0.642007	-0.006926	0.188417
0.630E-07	0.110320	19.15	0.634284	-0.007042	0.185292
0.400E-07	0.108507	19.29	0.627068	-0.007156	0.182363
0.250E-07	0.106720	19.44	0.619962	-0.007271	0.179469
0.160E-07	0.105102	19.57	0.613529	-0.007379	0.176841
0.100E-07	0.103472	19.70	0.607060	-0.007491	0.174191
0.630E-08	0.101941	19.83	0.600984	-0.007600	0.171694
0.400E-08	0.100498	19.96	0.595264	-0.007706	0.169338
0.250E-08	0.099067	20.08	0.589594	-0.007814	0.166996
0.160E-08	0.097763	20.20	0.584427	-0.007915	0.164856
0.100E-08	0.096442	20.31	0.579200	-0.008021	0.162687
0.630E-09	0.095194	20.43	0.574262	-0.008124	0.160633
0.400E-09	0.094012	20.54	0.569588	-0.008223	0.158684
0.250E-09	0.092833	20.65	0.564930	-0.008325	0.156739
0.160E-09	0.091753	20.75	0.560665	-0.008421	0.154954
0.100E-09	0.090656	20.85	0.556329	-0.008521	0.153137

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- S/N = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552800. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.089613	20.95	0.552214	-0.008618	0.151410
0.400E-10	0.088622	21.05	0.548303	-0.008713	0.149765
0.250E-10	0.087630	21.15	0.544390	-0.008810	0.148117
0.160E-10	0.086718	21.24	0.540792	-0.008901	0.146600
0.100E-10	0.085787	21.33	0.537121	-0.008996	0.145050
0.630E-11	0.084900	21.42	0.533625	-0.009089	0.143572
0.400E-11	0.084054	21.51	0.530290	-0.009179	0.142161
0.250E-11	0.083205	21.60	0.526942	-0.009272	0.140743
0.160E-11	0.082421	21.68	0.523855	-0.009359	0.139434
0.100E-11	0.081619	21.76	0.520696	-0.009450	0.138092
0.630E-12	0.080853	21.85	0.517677	-0.009538	0.136810
0.400E-12	0.080120	21.93	0.514791	-0.009624	0.135582
0.250E-12	0.079381	22.01	0.511885	-0.009713	0.134346
0.160E-12	0.078699	22.08	0.509198	-0.009797	0.133201
0.100E-12	0.077999	22.16	0.506441	-0.009884	0.132027
0.630E-13	0.077328	22.23	0.503802	-0.009969	0.130901
0.400E-13	0.076685	22.31	0.501271	-0.010052	0.129821
0.250E-13	0.076036	22.38	0.498718	-0.010137	0.128731
0.160E-13	0.075434	22.45	0.496352	-0.010217	0.127720
0.100E-13	0.074816	22.52	0.493920	-0.010301	0.126680
0.630E-14	0.074223	22.59	0.491586	-0.010383	0.125682
0.400E-14	0.073653	22.66	0.489344	-0.010463	0.124722
0.250E-14	0.073076	22.72	0.487078	-0.010545	0.123752
0.160E-14	0.072541	22.79	0.484974	-0.010622	0.122851
0.100E-14	0.071990	22.85	0.482807	-0.010703	0.121923

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552800. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE IS IN DIMENSIONAL UNITS

TABLE WAS CALLED.

0.100E-02	0.194106	14.24	0.967952	-0.010875	0.119990
0.300E-03	0.185131	14.65	0.952743	-0.007520	0.173536
0.400E-03	0.177282	15.03	0.931818	-0.005609	0.232662
0.250E-03	0.170018	15.39	0.904962	-0.004745	0.274993
0.160E-03	0.163810	15.71	0.878017	-0.004580	0.284911
0.100E-03	0.157893	16.03	0.851306	-0.004708	0.277167
0.630E-04	0.152614	16.33	0.827763	-0.004923	0.265090
0.400E-04	0.147873	16.60	0.807141	-0.005140	0.253883
0.250E-04	0.143377	16.87	0.788035	-0.005349	0.243970
0.160E-04	0.138446	17.11	0.771632	-0.005530	0.235984
0.100E-04	0.135620	17.35	0.755880	-0.005705	0.228733
0.630E-05	0.131317	17.58	0.741682	-0.005866	0.222470
0.400E-05	0.128951	17.79	0.728786	-0.006015	0.216945
0.250E-05	0.126877	18.00	0.716408	-0.006163	0.211740
0.160E-05	0.123146	18.19	0.705453	-0.006298	0.207185
0.100E-05	0.120448	18.38	0.694661	-0.006437	0.202726
0.630E-06	0.117956	18.57	0.684717	-0.006570	0.198629
0.400E-06	0.115647	18.74	0.675519	-0.006697	0.194841
0.250E-06	0.113392	18.91	0.666547	-0.006827	0.191144
0.160E-06	0.111365	19.07	0.658494	-0.006948	0.187820
0.100E-06	0.109341	19.22	0.650461	-0.007073	0.184497
0.630E-07	0.107453	19.38	0.642974	-0.007194	0.181393
0.400E-07	0.105687	19.52	0.635975	-0.007311	0.178485
0.250E-07	0.103946	19.66	0.629083	-0.007431	0.175614
0.160E-07	0.102369	19.80	0.622842	-0.007542	0.173008
0.100E-07	0.100782	19.93	0.616564	-0.007659	0.170381
0.630E-08	0.099290	20.06	0.610666	-0.007772	0.167908
0.400E-08	0.097885	20.19	0.605114	-0.007881	0.165575
0.250E-08	0.096491	20.31	0.599609	-0.007993	0.163258
0.160E-08	0.095220	20.43	0.594391	-0.008098	0.161142
0.100E-08	0.093934	20.54	0.589513	-0.008207	0.158998
0.630E-09	0.092718	20.66	0.584715	-0.008313	0.156968
0.400E-09	0.091566	20.77	0.580173	-0.008416	0.155045
0.250E-09	0.090418	20.87	0.575646	-0.008522	0.153125
0.160E-09	0.089367	20.98	0.571500	-0.008621	0.151364
0.100E-09	0.088297	21.08	0.567285	-0.008724	0.149572
0.630E-10	0.087282	21.18	0.563284	-0.008825	0.147870
0.400E-10	0.086317	21.28	0.559480	-0.008922	0.146250
0.250E-10	0.085351	21.38	0.555674	-0.009023	0.144627
0.160E-10	0.084463	21.47	0.552174	-0.009117	0.143134
0.100E-10	0.083556	21.56	0.548603	-0.009215	0.141609
0.630E-11	0.082692	21.65	0.545201	-0.009310	0.140156
0.400E-11	0.081868	21.74	0.541956	-0.009404	0.138768
0.250E-11	0.081040	21.83	0.538698	-0.009499	0.137374
0.160E-11	0.080277	21.91	0.535693	-0.009589	0.136088
0.100E-11	0.079496	21.99	0.532618	-0.009682	0.134771
0.630E-12	0.078749	22.08	0.529679	-0.009774	0.133512
0.400E-12	0.078035	22.15	0.526869	-0.009863	0.132307
0.250E-12	0.077317	22.23	0.524040	-0.009954	0.131093
0.160E-12	0.076652	22.31	0.521424	-0.010040	0.129971
0.100E-12	0.075970	22.39	0.518739	-0.010130	0.128819
0.630E-13	0.075316	22.46	0.516169	-0.010217	0.127715
0.400E-13	0.074690	22.53	0.513704	-0.010303	0.126656
0.250E-13	0.074058	22.61	0.511217	-0.010390	0.125588
0.160E-13	0.073472	22.68	0.508913	-0.010473	0.124598
0.100E-13	0.072870	22.75	0.506544	-0.010559	0.123579
0.630E-14	0.072292	22.82	0.504270	-0.010643	0.122602
0.400E-14	0.071737	22.89	0.502086	-0.010726	0.121662
0.250E-14	0.071176	22.95	0.499878	-0.010810	0.120713
0.160E-14	0.070655	23.02	0.497829	-0.010890	0.119831
0.100E-14	0.070118	23.08	0.495718	-0.010973	0.118922

# BASFRAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2200 2800.  
PSEUDO ERROR RATE EQUALS 1.0 /

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.194106	14.24	0.967952	-0.010875	0.119990
0.630E-03	0.103131	14.65	0.952743	-0.007520	0.173536
0.400E-03	0.177282	15.03	0.931818	-0.005609	0.232662
0.250E-03	0.170018	15.39	0.904962	-0.004745	0.274993
0.160E-03	0.163810	15.71	0.878017	-0.004580	0.284911
0.100E-03	0.157893	16.03	0.851306	-0.004708	0.277167
0.630E-04	0.152614	16.33	0.827763	-0.004923	0.265090
0.400E-04	0.147873	16.60	0.807141	-0.005140	0.253883
0.250E-04	0.143377	16.87	0.788035	-0.005349	0.243970
0.160E-04	0.139446	17.11	0.771632	-0.005530	0.235984
0.100E-04	0.135620	17.35	0.755880	-0.005705	0.228733
0.630E-05	0.132137	17.58	0.741682	-0.005866	0.222470
0.400E-05	0.128951	17.79	0.728786	-0.006015	0.216945
0.250E-05	0.125877	18.00	0.716408	-0.006163	0.211740
0.160E-05	0.123146	18.19	0.705453	-0.006298	0.207185
0.100E-05	0.120448	18.38	0.694661	-0.006437	0.202726
0.630E-06	0.117956	18.57	0.684717	-0.006570	0.198629
0.400E-06	0.115647	18.74	0.675519	-0.006697	0.194841
0.250E-06	0.113392	18.91	0.666547	-0.006827	0.191144
0.160E-06	0.111365	19.07	0.658494	-0.006948	0.187820
0.100E-06	0.109341	19.22	0.650461	-0.007073	0.184497
0.630E-07	0.107453	19.38	0.642974	-0.007194	0.181393
0.400E-07	0.105687	19.52	0.635975	-0.007311	0.178485
0.250E-07	0.103946	19.66	0.629083	-0.007431	0.175614
0.160E-07	0.102369	19.80	0.622842	-0.007542	0.173008
0.100E-07	0.100782	19.93	0.616564	-0.007659	0.170381
0.630E-08	0.099290	20.06	0.610666	-0.007772	0.167908
0.400E-08	0.097885	20.19	0.605114	-0.007881	0.165575
0.250E-08	0.096491	20.31	0.599609	-0.007993	0.163258
0.160E-08	0.095220	20.43	0.594591	-0.008098	0.161142
0.100E-08	0.093934	20.54	0.589513	-0.008207	0.158998
0.630E-09	0.092718	20.66	0.584715	-0.008313	0.156968
0.400E-09	0.091566	20.77	0.580173	-0.008416	0.155045
0.250E-09	0.090418	20.87	0.575646	-0.008522	0.153125
0.160E-09	0.089367	20.98	0.571500	-0.008621	0.151364
0.100E-09	0.088297	21.08	0.567285	-0.008724	0.149572

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E. DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- DERIV PER WRT = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2200  
PSUEDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.087282	21.18	0.563284	-0.008825	0.147870
0.400E-10	0.086317	21.28	0.559480	-0.008922	0.146250
0.250E-10	0.085351	21.38	0.555674	-0.009023	0.144627
0.160E-10	0.084463	21.47	0.552174	-0.009117	0.143134
0.100E-10	0.083556	21.56	0.548603	-0.009215	0.141609
0.630E-11	0.082692	21.65	0.545201	-0.009310	0.140156
0.400E-11	0.081868	21.74	0.541956	-0.009404	0.138768
0.250E-11	0.081040	21.83	0.538698	-0.009499	0.137374
0.160E-11	0.080277	21.91	0.535693	-0.009589	0.136088
0.100E-11	0.079496	21.99	0.532618	-0.009682	0.134771
0.630E-12	0.078749	22.08	0.529679	-0.009774	0.133512
0.400E-12	0.078035	22.15	0.526869	-0.009863	0.132307
0.250E-12	0.077317	22.23	0.524040	-0.009954	0.131093
0.160E-12	0.076652	22.31	0.521424	-0.010040	0.129971
0.100E-12	0.075970	22.39	0.518739	-0.010130	0.128819
0.630E-13	0.075316	22.46	0.516169	-0.010217	0.127715
0.400E-13	0.074690	22.53	0.513704	-0.010303	0.126656
0.250E-13	0.074058	22.61	0.511217	-0.010390	0.125588
0.160E-13	0.073472	22.68	0.508913	-0.010473	0.124598
0.100E-13	0.072870	22.75	0.506544	-0.010559	0.123579
0.630E-14	0.072292	22.82	0.504270	-0.010643	0.122602
0.400E-14	0.071737	22.89	0.502086	-0.010726	0.121662
0.250E-14	0.071176	22.95	0.499878	-0.010810	0.120713
0.160E-14	0.070655	23.02	0.497829	-0.010890	0.119831
0.100E-14	0.070118	23.08	0.495718	-0.010973	0.118922

## NONENCLOSURE:

- HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- RMS NOISE TO RMS SIGNAL RATIO.
- SIGNAL POWER TO NOISE POWER IN DECIBELS.
- ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITE RATE = 12552000. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER ■ 4.

TABLE IS TO BE USED WITHOUT MODC. TABLE WAS CALLED.

0.100E-02	0.189649	14.44	0.968388	-0.011024	0.118374
0.30E-03	0.180728	14.86	0.953468	-0.007634	0.170944
0.50E-03	0.172949	15.24	0.932960	-0.005699	0.228971
0.70E-03	0.165770	15.61	0.906662	-0.004825	0.270463
0.100E-03	0.159651	15.94	0.880308	-0.004660	0.280049
0.150E-03	0.153832	16.26	0.854227	-0.004793	0.272251
0.20E-04	0.148649	16.56	0.831281	-0.005015	0.260226
0.30E-04	0.144004	16.83	0.811211	-0.005239	0.249087
0.50E-04	0.139604	17.10	0.792640	-0.005454	0.239238
0.100E-04	0.135762	17.34	0.776710	-0.005642	0.231303
0.150E-04	0.132025	17.59	0.761423	-0.005823	0.224098
0.20E-05	0.128626	17.81	0.747649	-0.005989	0.217876
0.30E-05	0.125519	18.03	0.735142	-0.006144	0.212388
0.50E-05	0.122523	18.24	0.723138	-0.006297	0.207220
0.100E-05	0.119861	18.43	0.712514	-0.006438	0.202701
0.150E-05	0.117233	18.62	0.702047	-0.006581	0.198278
0.20E-06	0.114804	18.80	0.692402	-0.006719	0.194218
0.30E-06	0.112557	18.97	0.683479	-0.006851	0.190467
0.50E-06	0.110361	19.14	0.674774	-0.006985	0.186807
0.100E-06	0.108368	19.30	0.666960	-0.007110	0.183520
0.150E-06	0.106418	19.46	0.659162	-0.007240	0.180236
0.20E-07	0.104580	19.61	0.651893	-0.007365	0.177170
0.30E-07	0.102861	19.76	0.645098	-0.007487	0.174299
0.50E-07	0.101166	19.90	0.638404	-0.007610	0.171467
0.100E-07	0.0994631	20.03	0.632341	-0.007726	0.168898
0.150E-07	0.098086	20.17	0.626241	-0.007846	0.166309
0.20E-08	0.096634	20.30	0.620510	-0.007963	0.163874
0.30E-08	0.095267	20.42	0.615114	-0.008076	0.161578
0.50E-08	0.093910	20.55	0.609762	-0.008192	0.159298
0.100E-08	0.092673	20.66	0.604883	-0.008300	0.157218
0.150E-08	0.091421	20.78	0.599946	-0.008413	0.155111
0.20E-09	0.090238	20.89	0.595280	-0.008522	0.153117
0.30E-09	0.089117	21.00	0.590863	-0.008629	0.151229
0.50E-09	0.088000	21.11	0.586459	-0.008738	0.149344
0.100E-09	0.086977	21.21	0.582425	-0.008840	0.147617
0.150E-09	0.085936	21.32	0.578324	-0.008946	0.145860
0.20E-10	0.084948	21.42	0.574431	-0.009050	0.144191
0.30E-10	0.084008	21.51	0.570730	-0.009151	0.142603
0.50E-10	0.083068	21.61	0.567025	-0.009254	0.141013
0.100E-10	0.082203	21.70	0.563619	-0.009351	0.139551
0.150E-10	0.081321	21.80	0.560143	-0.009452	0.138058
0.20E-11	0.080440	21.89	0.556831	-0.009550	0.136635
0.30E-11	0.079678	21.97	0.553672	-0.009646	0.135278
0.50E-11	0.078873	22.06	0.550500	-0.009744	0.133914
0.100E-11	0.078130	22.14	0.547575	-0.009837	0.132656
0.150E-11	0.077370	22.23	0.544580	-0.009933	0.131367
0.20E-12	0.076643	22.31	0.541719	-0.010027	0.130136
0.30E-12	0.075948	22.39	0.538983	-0.010119	0.128959
0.50E-12	0.075249	22.47	0.536228	-0.010213	0.127773
0.100E-12	0.074602	22.55	0.533680	-0.010301	0.126675
0.150E-12	0.073938	22.62	0.531066	-0.010394	0.125550
0.20E-13	0.073302	22.70	0.528562	-0.010484	0.124472
0.30E-13	0.072692	22.77	0.526162	-0.010571	0.123438
0.50E-13	0.072077	22.84	0.523740	-0.010661	0.122395
0.100E-13	0.071507	22.91	0.521496	-0.010746	0.121428
0.150E-13	0.070921	22.98	0.519188	-0.010835	0.120434
0.20E-14	0.070358	23.05	0.516973	-0.010922	0.119479
0.30E-14	0.069818	23.12	0.514846	-0.011006	0.118562
0.50E-14	0.069272	23.19	0.512695	-0.011093	0.117636
0.100E-14	0.068765	23.25	0.510699	-0.011175	0.116775
0.150E-14	0.068242	23.32	0.508642	-0.011260	0.115888

# BASEBAND FIVE PATTERN MONITOR TABLES

TABLE FOR A/D EQUALS 0.2400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.189649	14.44	0.968388	-0.011024	0.118374
0.630E-03	0.180728	14.86	0.953468	-0.007634	0.170944
0.400E-03	0.172949	15.24	0.932960	-0.005699	0.228971
0.250E-03	0.165770	15.61	0.906662	-0.004825	0.270463
0.160E-03	0.159651	15.94	0.880308	-0.004660	0.280049
0.100E-03	0.153832	16.26	0.854227	-0.004793	0.272251
0.630E-04	0.148649	16.56	0.831281	-0.005015	0.260226
0.400E-04	0.144004	16.83	0.811211	-0.005239	0.249087
0.250E-04	0.139604	17.10	0.792640	-0.005454	0.239238
0.160E-04	0.135762	17.34	0.776710	-0.005642	0.231303
0.100E-04	0.132025	17.59	0.761423	-0.005823	0.224098
0.630E-05	0.128626	17.81	0.747649	-0.005989	0.217876
0.400E-05	0.125519	18.03	0.735142	-0.006144	0.212388
0.250E-05	0.122523	18.24	0.723138	-0.006297	0.207220
0.160E-05	0.119861	18.43	0.712814	-0.006438	0.202701
0.100E-05	0.117233	18.62	0.702047	-0.006581	0.198278
0.630E-06	0.114806	18.80	0.692402	-0.006719	0.194218
0.400E-06	0.112557	18.97	0.683479	-0.006851	0.190467
0.250E-06	0.110361	19.14	0.674774	-0.006985	0.186307
0.160E-06	0.108388	19.30	0.666960	-0.007110	0.183520
0.100E-06	0.106418	19.46	0.659162	-0.007240	0.180236
0.630E-07	0.104580	19.61	0.651893	-0.007365	0.177170
0.400E-07	0.102861	19.76	0.645098	-0.007487	0.174299
0.250E-07	0.101166	19.90	0.638404	-0.007610	0.171467
0.160E-07	0.099431	20.03	0.632341	-0.007726	0.168898
0.100E-07	0.098086	20.17	0.626841	-0.007846	0.166309
0.630E-08	0.096634	20.30	0.620510	-0.007963	0.163874
0.400E-08	0.095267	20.42	0.615114	-0.008076	0.161578
0.250E-08	0.093910	20.55	0.609762	-0.008192	0.159298
0.160E-08	0.092473	20.66	0.604683	-0.008300	0.157218
0.100E-08	0.091421	20.78	0.599946	-0.008413	0.155111
0.630E-09	0.090238	20.89	0.595280	-0.008522	0.153117
0.400E-09	0.089117	21.00	0.590753	-0.008629	0.151229
0.250E-09	0.088000	21.11	0.586459	-0.008738	0.149344
0.160E-09	0.086977	21.21	0.582425	-0.008840	0.147617
0.100E-09	0.085936	21.32	0.578324	-0.008946	0.145960

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- ATDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BIT RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FIVE PATTERN MONITOR TABLES

TABLE FOR AIDP EQUALS 0.2400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.084948	21.42	0.574431	-0.009050	0.144191
0.400E-10	0.084008	21.51	0.570730	-0.009151	0.142603
0.250E-10	0.083368	21.61	0.567025	-0.009254	0.141013
0.160E-10	0.082203	21.70	0.563619	-0.009351	0.139551
0.100E-10	0.081321	21.80	0.560143	-0.009452	0.138058
0.630E-11	0.080480	21.89	0.556831	-0.009550	0.136635
0.400E-11	0.079678	21.97	0.553672	-0.009646	0.135278
0.250E-11	0.078873	22.06	0.550500	-0.009744	0.133914
0.160E-11	0.078130	22.14	0.547575	-0.009837	0.132656
0.100E-11	0.077370	22.23	0.544580	-0.009933	0.131367
0.630E-12	0.076643	22.31	0.541719	-0.010027	0.130134
0.400E-12	0.075948	22.39	0.538983	-0.010119	0.128959
0.250E-12	0.075249	22.47	0.536228	-0.010213	0.127773
0.160E-12	0.074602	22.53	0.533680	-0.010301	0.126676
0.100E-12	0.073938	22.62	0.531066	-0.010394	0.125550
0.630E-13	0.073302	22.70	0.528562	-0.010484	0.124472
0.400E-13	0.072692	22.77	0.526162	-0.010571	0.123438
0.250E-13	0.072077	22.84	0.523740	-0.010661	0.122395
0.160E-13	0.071507	22.91	0.521496	-0.010746	0.121428
0.100E-13	0.070921	22.98	0.519188	-0.010835	0.120434
0.630E-14	0.070358	23.05	0.516973	-0.010922	0.119479
0.400E-14	0.069818	23.12	0.514846	-0.011006	0.118562
0.250E-14	0.069272	23.19	0.512695	-0.011093	0.117636
0.160E-14	0.068765	23.25	0.510699	-0.011175	0.116775
0.100E-14	0.068242	23.32	0.508842	-0.011260	0.115888

## NOMENCLATURE:

- AIDP = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BIT RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TRUNK IS IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.184986	14.66	0.968900	-0.011204	0.116473
0.630E-03	0.176151	15.08	0.954304	-0.007770	0.167940
0.400E-03	0.168473	15.47	0.934257	-0.005807	0.224731
0.250E-03	0.161407	15.84	0.908568	-0.004919	0.265287
0.160E-03	0.155399	16.17	0.882851	-0.004753	0.274522
0.100E-03	0.149697	16.50	0.857436	-0.004893	0.266704
0.630E-04	0.144628	16.79	0.835107	-0.005122	0.254775
0.400E-04	0.140089	17.07	0.815598	-0.005354	0.243746
0.250E-04	0.135796	17.34	0.797560	-0.005577	0.233998
0.160E-04	0.132050	17.59	0.782097	-0.005770	0.226148
0.100E-04	0.128409	17.83	0.767262	-0.005958	0.219019
0.630E-05	0.125099	18.05	0.753897	-0.006130	0.212866
0.400E-05	0.122074	18.27	0.741762	-0.006290	0.207441
0.250E-05	0.119157	18.48	0.730115	-0.006449	0.202337
0.160E-05	0.116567	18.67	0.719805	-0.006595	0.197875
0.100E-05	0.114010	18.86	0.709647	-0.006743	0.193512
0.630E-06	0.111649	19.04	0.700284	-0.006886	0.189509
0.400E-06	0.109462	19.21	0.691621	-0.007023	0.185814
0.250E-06	0.107326	19.39	0.683168	-0.007161	0.182212
0.160E-06	0.105407	19.54	0.675378	-0.007291	0.178978
0.100E-06	0.103690	19.70	0.668004	-0.007425	0.175749
0.630E-07	0.101703	19.85	0.660941	-0.007554	0.172737
0.400E-07	0.100031	20.00	0.654337	-0.007680	0.169918
0.250E-07	0.983383	20.14	0.647831	-0.007807	0.167138
0.160E-07	0.966990	20.27	0.641938	-0.007927	0.164618
0.100E-07	0.953388	20.41	0.636008	-0.008051	0.162081
0.630E-08	0.939766	20.54	0.630436	-0.008171	0.159694
0.400E-08	0.926446	20.66	0.625189	-0.008288	0.157446
0.250E-08	0.91326	20.79	0.619984	-0.008407	0.155214
0.160E-08	0.900124	20.90	0.615239	-0.008519	0.153177
0.100E-08	0.888906	21.02	0.610436	-0.008635	0.151116
0.630E-09	0.887755	21.13	0.605897	-0.008748	0.149166
0.400E-09	0.886645	21.24	0.601600	-0.008858	0.147319
0.250E-09	0.885579	21.35	0.597315	-0.008970	0.145477
0.160E-09	0.884584	21.45	0.593390	-0.009075	0.143790
0.100E-09	0.883571	21.56	0.589400	-0.009185	0.142073
0.630E-10	0.882611	21.66	0.585611	-0.009291	0.140443
0.400E-10	0.881697	21.76	0.582009	-0.009395	0.138892
0.250E-10	0.880783	21.85	0.578404	-0.009501	0.137340
0.160E-10	0.879942	21.94	0.575089	-0.009601	0.135913
0.100E-10	0.879084	22.04	0.571706	-0.009705	0.134456
0.630E-11	0.878266	22.13	0.568483	-0.009806	0.133067
0.400E-11	0.877486	22.22	0.565408	-0.009905	0.131743
0.250E-11	0.876703	22.30	0.562321	-0.010006	0.130412
0.160E-11	0.875980	22.39	0.559473	-0.010101	0.129185
0.100E-11	0.875241	22.47	0.556558	-0.010200	0.127929
0.630E-12	0.874534	22.55	0.553773	-0.010297	0.126729
0.400E-12	0.873859	22.63	0.551109	-0.010391	0.125580
0.250E-12	0.873178	22.71	0.548427	-0.010488	0.124424
0.160E-12	0.872549	22.79	0.545947	-0.010578	0.123355
0.100E-12	0.871903	22.87	0.543402	-0.010673	0.122258
0.630E-13	0.871285	22.94	0.540965	-0.010766	0.121207
0.400E-13	0.870692	23.01	0.538628	-0.010856	0.120199
0.250E-13	0.870094	23.09	0.536270	-0.010949	0.119182
0.160E-13	0.869540	23.14	0.534095	-0.011036	0.118240
0.100E-13	0.868970	23.23	0.531838	-0.011127	0.117271
0.630E-14	0.868423	23.30	0.529682	-0.011216	0.116341
0.400E-14	0.867897	23.34	0.527611	-0.011303	0.115468
0.250E-14	0.867366	23.43	0.525517	-0.011392	0.114545
0.160E-14	0.866873	23.50	0.523574	-0.011476	0.113707
0.100E-14	0.866365	23.56	0.521571	-0.011564	0.112843

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

AIDR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.184986	14.66	0.968900	-0.011204	0.116473
0.630E-03	0.176151	15.08	0.954304	-0.007770	0.167960
0.400E-03	0.168473	15.47	0.934257	-0.005807	0.224731
0.250E-03	0.161407	15.84	0.908568	-0.004919	0.265287
0.160E-03	0.155399	16.17	0.882851	-0.004753	0.274522
0.100E-03	0.149697	16.50	0.857436	-0.004893	0.266704
0.630E-04	0.144628	16.79	0.835107	-0.005122	0.254775
0.400E-04	0.140089	17.07	0.815598	-0.005354	0.243746
0.250E-04	0.135796	17.34	0.797560	-0.005577	0.233998
0.160E-04	0.132050	17.59	0.782097	-0.005770	0.226148
0.100E-04	0.128409	17.83	0.767262	-0.005958	0.219019
0.630E-05	0.125399	18.05	0.753897	-0.006130	0.212866
0.400E-05	0.122074	18.27	0.741762	-0.006290	0.207441
0.250E-05	0.119157	18.48	0.730115	-0.006449	0.202337
0.160E-05	0.116567	18.67	0.719805	-0.006595	0.197875
0.100E-05	0.114010	18.86	0.709647	-0.006743	0.193512
0.630E-06	0.111649	19.04	0.700284	-0.006886	0.189509
0.400E-06	0.109462	19.21	0.691621	-0.007023	0.185814
0.250E-06	0.107326	19.39	0.683168	-0.007161	0.182212
0.160E-06	0.105407	19.54	0.675578	-0.007291	0.178978
0.100E-06	0.103490	19.70	0.668004	-0.007425	0.175749
0.630E-07	0.101703	19.85	0.660941	-0.007554	0.172737
0.400E-07	0.100031	20.00	0.654337	-0.007680	0.169918
0.250E-07	0.098383	20.14	0.647831	-0.007807	0.167138
0.160E-07	0.096890	20.27	0.641938	-0.007927	0.164618
0.100E-07	0.095388	20.41	0.636008	-0.008051	0.162081
0.630E-08	0.093976	20.54	0.630436	-0.008171	0.159694
0.400E-08	0.092646	20.66	0.625189	-0.008288	0.157446
0.250E-08	0.091326	20.79	0.619984	-0.008407	0.155214
0.160E-08	0.090124	20.90	0.615239	-0.008519	0.153177
0.100E-08	0.088906	21.02	0.610436	-0.008635	0.151116
0.630E-09	0.087755	21.13	0.605897	-0.008748	0.149166
0.400E-09	0.086665	21.24	0.601600	-0.008858	0.147319
0.250E-09	0.085579	21.35	0.597315	-0.008970	0.145477
0.160E-09	0.084584	21.45	0.593390	-0.009075	0.143790
0.100E-09	0.083571	21.56	0.589400	-0.009185	0.142073

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN RATE = 12552600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.082611	21.46	0.585611	-0.009291	0.140443
0.400E-10	0.081697	21.76	0.582009	-0.009395	0.138892
0.250E-10	0.080783	21.85	0.578404	-0.009501	0.137340
0.160E-10	0.079942	21.94	0.575089	-0.009601	0.135913
0.100E-10	0.079084	22.04	0.571706	-0.009705	0.134456
0.630E-11	0.078266	22.13	0.568483	-0.009806	0.133067
0.400E-11	0.077486	22.22	0.565408	-0.009905	0.131743
0.250E-11	0.076703	22.30	0.562321	-0.010006	0.130412
0.160E-11	0.075980	22.39	0.559473	-0.010101	0.129185
0.100E-11	0.075241	22.47	0.556558	-0.010200	0.127929
0.630E-12	0.074534	22.55	0.553773	-0.010297	0.126729
0.400E-12	0.073859	22.63	0.551109	-0.010391	0.125580
0.250E-12	0.073178	22.71	0.548427	-0.010488	0.124424
0.160E-12	0.072549	22.79	0.545947	-0.010578	0.123355
0.100E-12	0.071903	22.87	0.543402	-0.010673	0.122258
0.630E-13	0.071285	22.94	0.540965	-0.010766	0.121207
0.400E-13	0.070692	23.01	0.538628	-0.010856	0.120199
0.250E-13	0.070094	23.09	0.536270	-0.010949	0.119182
0.160E-13	0.069540	23.16	0.534085	-0.011036	0.118240
0.100E-13	0.068970	23.23	0.531838	-0.011127	0.117271
0.630E-14	0.068423	23.30	0.529682	-0.011216	0.116341
0.400E-14	0.067897	23.36	0.527611	-0.011303	0.115448
0.250E-14	0.067364	23.43	0.525517	-0.011392	0.114545
0.160E-14	0.066873	23.50	0.523574	-0.011476	0.113707
0.100E-14	0.066365	23.56	0.521571	-0.011564	0.112843

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE = 12552800. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.180151	14.89	0.969485	-0.011417	0.114298
0.630E-03	0.171438	15.32	0.955242	-0.007930	0.164554
0.400E-03	0.163889	15.71	0.935691	-0.005931	0.219998
0.250E-03	0.156962	16.08	0.910649	-0.005028	0.259539
0.160E-03	0.151083	16.42	0.885600	-0.004861	0.268422
0.100E-03	0.145515	16.74	0.860871	-0.005007	0.260626
0.630E-04	0.140570	17.04	0.839164	-0.005244	0.248843
0.400E-04	0.136148	17.32	0.820217	-0.005484	0.237968
0.250E-04	0.131968	17.59	0.802706	-0.005714	0.228363
0.160E-04	0.128322	17.83	0.787697	-0.005914	0.220630
0.100E-04	0.124780	18.08	0.773299	-0.006109	0.213611
0.630E-05	0.121561	18.30	0.760329	-0.006287	0.207555
0.400E-05	0.118620	18.52	0.748551	-0.006453	0.202218
0.250E-05	0.115785	18.73	0.737245	-0.006617	0.197200
0.160E-05	0.113268	18.92	0.727236	-0.006768	0.192817
0.100E-05	0.110783	19.11	0.717372	-0.006921	0.188534
0.630E-06	0.108488	19.29	0.708279	-0.007069	0.184608
0.400E-06	0.106363	19.46	0.699865	-0.007210	0.180985
0.250E-06	0.104287	19.64	0.691653	-0.007353	0.177455
0.160E-06	0.102422	19.79	0.684278	-0.007487	0.174288
0.100E-06	0.100540	19.95	0.676918	-0.007625	0.171128
0.630E-07	0.098623	20.10	0.670054	-0.007759	0.168181
0.400E-07	0.097198	20.25	0.663636	-0.007888	0.165425
0.250E-07	0.095597	20.39	0.657312	-0.008020	0.162708
0.160E-07	0.094147	20.52	0.651583	-0.008143	0.160246
0.100E-07	0.092687	20.64	0.645818	-0.008271	0.157768
0.630E-08	0.091315	20.79	0.640400	-0.008395	0.155438
0.400E-08	0.090022	20.91	0.635297	-0.008515	0.153243
0.250E-08	0.088740	21.04	0.630236	-0.008638	0.151064
0.160E-08	0.087572	21.15	0.625622	-0.008753	0.149078
0.100E-08	0.086388	21.27	0.620951	-0.008873	0.147067
0.630E-09	0.085270	21.38	0.616536	-0.008989	0.145166
0.400E-09	0.084211	21.49	0.612356	-0.009102	0.143365
0.250E-09	0.083156	21.60	0.608189	-0.009217	0.141570
0.160E-09	0.082188	21.70	0.604372	-0.009326	0.139925
0.100E-09	0.081203	21.81	0.600490	-0.009439	0.138252
0.630E-10	0.080271	21.91	0.596805	-0.009548	0.136664
0.400E-10	0.079384	22.01	0.593301	-0.009655	0.135154
0.250E-10	0.078495	22.10	0.589794	-0.009764	0.133642
0.160E-10	0.077678	22.19	0.586569	-0.009867	0.132251
0.100E-10	0.076844	22.29	0.583278	-0.009974	0.130832
0.630E-11	0.076050	22.38	0.580142	-0.010078	0.129480
0.400E-11	0.075292	22.47	0.577151	-0.010179	0.128190
0.250E-11	0.074531	22.55	0.574147	-0.010283	0.126895
0.160E-11	0.073829	22.64	0.571377	-0.010381	0.125700
0.100E-11	0.073110	22.72	0.568541	-0.010483	0.124477
0.630E-12	0.072424	22.80	0.565832	-0.010582	0.123309
0.400E-12	0.071767	22.88	0.563240	-0.010679	0.122191
0.250E-12	0.071106	22.94	0.560630	-0.010779	0.121065
0.160E-12	0.070495	23.04	0.558217	-0.010872	0.120025
0.100E-12	0.069867	23.11	0.555742	-0.010970	0.118957
0.630E-13	0.069267	23.19	0.553370	-0.011065	0.117934
0.400E-13	0.068691	23.26	0.551097	-0.011158	0.116953
0.250E-13	0.068109	23.34	0.548803	-0.011253	0.115964
0.160E-13	0.067571	23.40	0.546677	-0.011342	0.115047
0.100E-13	0.067017	23.48	0.544491	-0.011436	0.114104
0.630E-14	0.066485	23.55	0.542393	-0.011528	0.113199
0.400E-14	0.065975	23.61	0.540378	-0.011617	0.112329
0.250E-14	0.065458	23.68	0.538341	-0.011708	0.111451
0.160E-14	0.064979	23.74	0.536450	-0.011795	0.110635
0.100E-14	0.064486	23.81	0.534502	-0.011885	0.109794

# BASEBAND P/F PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.180151	14.89	0.969485	-0.011417	0.114298
0.630E-03	0.171438	15.32	0.953247	-0.007930	0.164554
0.400E-03	0.163889	15.71	0.935691	-0.005931	0.219998
0.250E-03	0.156962	16.08	0.910649	-0.005028	0.259539
0.160E-03	0.151083	16.42	0.885600	-0.004861	0.269422
0.100E-03	0.145515	16.74	0.860871	-0.005007	0.260626
0.630E-04	0.140570	17.04	0.839166	-0.005244	0.248843
0.400E-04	0.136148	17.32	0.820217	-0.005484	0.237968
0.250E-04	0.131968	17.59	0.802706	-0.005714	0.228363
0.160E-04	0.128322	17.83	0.787697	-0.005914	0.220630
0.100E-04	0.124780	18.08	0.773299	-0.006109	0.213611
0.630E-05	0.121561	18.30	0.760329	-0.006287	0.207555
0.400E-05	0.118620	18.52	0.748551	-0.006453	0.202218
0.250E-05	0.115785	18.73	0.737245	-0.006617	0.197200
0.160E-05	0.113268	18.92	0.727236	-0.006768	0.192817
0.100E-05	0.110783	19.11	0.717372	-0.006921	0.188534
0.630E-06	0.108468	19.29	0.708279	-0.007069	0.184608
0.400E-06	0.106363	19.46	0.699865	-0.007210	0.180985
0.250E-06	0.104287	19.64	0.691653	-0.007353	0.177455
0.160E-06	0.102422	19.79	0.684278	-0.007487	0.174288
0.100E-06	0.100560	19.95	0.676918	-0.007625	0.171128
0.630E-07	0.098823	20.10	0.670054	-0.007759	0.168181
0.400E-07	0.097198	20.25	0.663636	-0.007888	0.165425
0.250E-07	0.095597	20.39	0.657312	-0.008020	0.162709
0.160E-07	0.094147	20.52	0.651583	-0.008143	0.160246
0.100E-07	0.092687	20.66	0.645818	-0.008271	0.157768
0.630E-08	0.091315	20.79	0.640600	-0.008395	0.155438
0.400E-08	0.090022	20.91	0.635297	-0.008515	0.153243
0.250E-08	0.088740	21.04	0.630236	-0.008638	0.151064
0.160E-08	0.087572	21.15	0.625622	-0.008753	0.149078
0.100E-08	0.086388	21.27	0.620951	-0.008873	0.147067
0.630E-09	0.085270	21.38	0.616536	-0.008989	0.145166
0.400E-09	0.084211	21.49	0.612356	-0.009102	0.143365
0.250E-09	0.083156	21.60	0.608189	-0.009217	0.141570
0.160E-09	0.082188	21.70	0.604372	-0.009326	0.139925
0.100E-09	0.081205	21.81	0.600490	-0.009439	0.138252

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THRE LEVEL EYE I.E., DECISION LEVEL, D RATIO.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DB.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL TIME CHANGES AROUND STEADY STATE VALUES
- WHEN RIT RATE = 12552600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.2800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.080271	21.91	0.594805	-0.009548	0.136664
0.400E-10	0.079384	22.01	0.593301	-0.009655	0.135154
0.250E-10	0.078495	22.10	0.589794	-0.009764	0.133642
0.160E-10	0.077678	22.19	0.586569	-0.009867	0.132251
0.100E-10	0.076844	22.29	0.583278	-0.009974	0.130832
0.630E-11	0.076050	22.38	0.580142	-0.010078	0.129480
0.400E-11	0.075292	22.47	0.577151	-0.010179	0.128190
0.250E-11	0.074531	22.55	0.574147	-0.010283	0.126895
0.160E-11	0.073829	22.64	0.571377	-0.010381	0.125700
0.100E-11	0.073110	22.72	0.568541	-0.010483	0.124477
0.630E-12	0.072424	22.80	0.565832	-0.010582	0.123309
0.400E-12	0.071767	22.88	0.563240	-0.010679	0.122191
0.250E-12	0.071106	22.96	0.560630	-0.010779	0.121065
0.160E-12	0.070495	23.04	0.558217	-0.010872	0.120025
0.100E-12	0.069867	23.11	0.555742	-0.010970	0.118957
0.630E-13	0.069267	23.19	0.553370	-0.011065	0.117934
0.400E-13	0.068691	23.26	0.551097	-0.011158	0.116953
0.250E-13	0.068109	23.34	0.548803	-0.011253	0.115964
0.160E-13	0.067571	23.40	0.546677	-0.011342	0.115047
0.100E-13	0.067017	23.48	0.544491	-0.011436	0.114104
0.630E-14	0.066485	23.55	0.542393	-0.011528	0.113199
0.400E-14	0.065975	23.61	0.540378	-0.011617	0.112329
0.250E-14	0.065458	23.68	0.538341	-0.011708	0.111451
0.160E-14	0.064979	23.74	0.536450	-0.011795	0.110635
0.100E-14	0.064486	23.81	0.534502	-0.011885	0.109794

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR IN DB = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN RITF RATE = 1252800. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. IN-DEPTH PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.175180	15.13	0.970137	-0.011664	0.111870
0.30E-03	0.166622	15.57	0.956269	-0.008113	0.160834
0.40E-03	0.159229	15.96	0.937237	-0.006074	0.214845
0.250E-03	0.152461	16.34	0.912869	-0.005151	0.253320
0.160E-03	0.146727	16.67	0.888506	-0.004983	0.261862
0.100E-03	0.141303	17.00	0.864473	-0.005135	0.254133
0.630E-04	0.136491	17.30	0.843392	-0.005380	0.242544
0.400E-04	0.132191	17.58	0.824996	-0.005628	0.231866
0.250E-04	0.128128	17.85	0.807999	-0.005866	0.222441
0.160E-04	0.124585	18.09	0.793434	-0.006073	0.214856
0.100E-04	0.121145	18.33	0.779460	-0.006274	0.207975
0.630E-05	0.118019	18.56	0.766871	-0.006459	0.202040
0.400E-05	0.115163	18.77	0.755438	-0.006630	0.196814
0.250E-05	0.112410	18.98	0.744462	-0.006800	0.191902
0.160E-05	0.109866	19.17	0.734743	-0.006955	0.187615
0.100E-05	0.107553	19.37	0.725165	-0.007114	0.183428
0.630E-06	0.105325	19.55	0.716334	-0.007266	0.179591
0.400E-06	0.103262	19.72	0.708161	-0.007412	0.176052
0.250E-06	0.101266	19.89	0.700184	-0.007560	0.172607
0.160E-06	0.099436	20.05	0.693020	-0.007698	0.169516
0.100E-06	0.097628	20.21	0.685868	-0.007840	0.166434
0.630E-07	0.095947	20.36	0.679199	-0.007978	0.163560
0.400E-07	0.094364	20.50	0.672962	-0.008111	0.160873
0.250E-07	0.092810	20.65	0.666816	-0.008247	0.158226
0.160E-07	0.091402	20.78	0.661248	-0.008374	0.155827
0.100E-07	0.089984	20.92	0.655645	-0.008506	0.153413
0.630E-08	0.088652	21.05	0.650380	-0.008634	0.151144
0.400E-08	0.087398	21.17	0.645420	-0.008757	0.149006
0.250E-08	0.086153	21.29	0.640501	-0.008884	0.146886
0.160E-08	0.085018	21.41	0.636015	-0.009002	0.144952
0.100E-08	0.083870	21.53	0.631475	-0.009126	0.142995
0.630E-09	0.082784	21.64	0.627184	-0.009245	0.141145
0.400E-09	0.081756	21.75	0.623121	-0.009361	0.139393
0.250E-09	0.080731	21.86	0.619070	-0.009480	0.137646
0.160E-09	0.079792	21.96	0.615359	-0.009592	0.136046
0.100E-09	0.078837	22.07	0.611585	-0.009708	0.134418
0.630E-10	0.077931	22.17	0.608003	-0.009821	0.132873
0.400E-10	0.077069	22.26	0.604597	-0.009930	0.131404
0.250E-10	0.076206	22.36	0.601187	-0.010043	0.129934
0.160E-10	0.075413	22.45	0.598052	-0.010149	0.128581
0.100E-10	0.074604	22.54	0.594852	-0.010259	0.127201
0.630E-11	0.073832	22.64	0.591804	-0.010366	0.125886
0.400E-11	0.073057	22.72	0.588896	-0.010470	0.124632
0.250E-11	0.072358	22.81	0.585976	-0.010577	0.123372
0.160E-11	0.071676	22.89	0.583283	-0.010678	0.122210
0.100E-11	0.070979	22.98	0.580526	-0.010782	0.121021
0.630E-12	0.070312	23.06	0.577891	-0.010885	0.119885
0.400E-12	0.069675	23.14	0.575372	-0.010984	0.118798
0.250E-12	0.069033	23.22	0.572855	-0.011086	0.117704
0.160E-12	0.068439	23.29	0.570489	-0.011183	0.116692
0.100E-12	0.067830	23.37	0.568082	-0.011283	0.115653
0.630E-13	0.067247	23.45	0.565776	-0.011381	0.114659
0.400E-13	0.066688	23.52	0.563566	-0.011476	0.113705
0.250E-13	0.066123	23.59	0.561336	-0.011574	0.112743
0.160E-13	0.065503	23.66	0.559269	-0.011666	0.111851
0.100E-13	0.065063	23.73	0.557144	-0.011763	0.110934
0.630E-14	0.064547	23.80	0.555104	-0.011857	0.110055
0.400E-14	0.064051	23.87	0.553145	-0.011949	0.109209
0.250E-14	0.063550	23.94	0.551185	-0.012043	0.108355
0.160E-14	0.063085	24.00	0.549326	-0.012132	0.107562
0.100E-14	0.062605	24.07	0.547432	-0.012225	0.106745

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR A/D EQUALS 0.3000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.175180	15.13	0.970137	-0.011664	0.111870
0.630E-03	0.166622	15.57	0.956269	-0.008113	0.160834
0.400E-03	0.159229	15.96	0.937237	-0.006074	0.214845
0.250E-03	0.152461	16.34	0.912869	-0.005151	0.253320
0.160E-03	0.146727	16.67	0.889506	-0.004983	0.261862
0.100E-03	0.141303	17.00	0.864473	-0.005135	0.254133
0.630E-04	0.136491	17.30	0.843392	-0.005380	0.242544
0.400E-04	0.132191	17.58	0.824996	-0.005628	0.231866
0.250E-04	0.128128	17.85	0.807999	-0.005866	0.222441
0.160E-04	0.124585	18.09	0.793434	-0.006073	0.214856
0.100E-04	0.121145	18.33	0.779460	-0.006274	0.207975
0.630E-05	0.118019	18.56	0.766871	-0.006459	0.202040
0.400E-05	0.115163	18.77	0.755438	-0.006630	0.196814
0.250E-05	0.112410	18.98	0.744462	-0.006800	0.191902
0.160E-05	0.109966	19.17	0.734743	-0.006955	0.187615
0.100E-05	0.107553	19.37	0.725165	-0.007114	0.183428
0.630E-06	0.105325	19.55	0.716334	-0.007266	0.179591
0.400E-06	0.103262	19.72	0.708161	-0.007412	0.176052
0.250E-06	0.101246	19.89	0.700184	-0.007560	0.172607
0.160E-06	0.099436	20.05	0.693020	-0.007698	0.169316
0.100E-06	0.097628	20.21	0.685868	-0.007840	0.166434
0.630E-07	0.095942	20.36	0.679199	-0.007978	0.163560
0.400E-07	0.094364	20.50	0.672962	-0.008111	0.160873
0.250E-07	0.092810	20.65	0.666816	-0.008247	0.158226
0.160E-07	0.091402	20.78	0.661248	-0.008374	0.155827
0.100E-07	0.089984	20.92	0.655645	-0.008506	0.153413
0.630E-08	0.088652	21.05	0.650380	-0.008634	0.151144
0.400E-08	0.087398	21.17	0.645420	-0.008757	0.149006
0.250E-08	0.086153	21.29	0.640501	-0.008884	0.146886
0.160E-08	0.085018	21.41	0.636015	-0.009002	0.144952
0.100E-08	0.083870	21.53	0.631475	-0.009126	0.142995
0.630E-09	0.082784	21.64	0.627184	-0.009245	0.141145
0.400E-09	0.081756	21.75	0.623121	-0.009361	0.139393
0.250E-09	0.080731	21.86	0.619070	-0.009480	0.137646
0.160E-09	0.079792	21.96	0.615359	-0.009592	0.136046
0.100E-09	0.078837	22.07	0.611585	-0.009708	0.134418

NOTES:

- = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- = RMS NOISE TO RMS SIGNAL RATIO.
- = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 1252800. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.077931	22.17	0.608003	-0.009821	0.132873
0.400E-10	0.077069	22.26	0.604597	-0.009930	0.131404
0.250E-10	0.076204	22.36	0.601187	-0.010043	0.129934
0.160E-10	0.075413	22.45	0.598052	-0.010149	0.128581
0.100E-10	0.074604	22.54	0.594852	-0.010259	0.127201
0.630E-11	0.073832	22.64	0.591804	-0.010366	0.125886
0.400E-11	0.073097	22.72	0.588896	-0.010470	0.124632
0.250E-11	0.072358	22.81	0.585976	-0.010577	0.123372
0.160E-11	0.071674	22.89	0.583283	-0.010678	0.122210
0.100E-11	0.070979	22.98	0.580526	-0.010782	0.121021
0.630E-12	0.070312	23.06	0.577891	-0.010885	0.119885
0.400E-12	0.069675	23.14	0.575372	-0.010984	0.118798
0.250E-12	0.069033	23.22	0.572835	-0.011086	0.117704
0.160E-12	0.068439	23.29	0.570489	-0.011183	0.116692
0.100E-12	0.067830	23.37	0.568082	-0.011283	0.115653
0.630E-13	0.067247	23.45	0.565776	-0.011381	0.114659
0.400E-13	0.066688	23.52	0.563566	-0.011476	0.113705
0.250E-13	0.066123	23.59	0.561336	-0.011574	0.112743
0.160E-13	0.065600	23.66	0.559269	-0.011666	0.111851
0.100E-13	0.065063	23.73	0.557144	-0.011763	0.110934
0.630E-14	0.064547	23.80	0.555104	-0.011857	0.110055
0.400E-14	0.064051	23.87	0.553145	-0.011949	0.109209
0.250E-14	0.063550	23.94	0.551165	-0.012043	0.108355
0.160E-14	0.063085	24.00	0.549326	-0.012132	0.107562
0.100E-14	0.062605	24.07	0.547432	-0.012225	0.106745

## NONMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITF RATE = 12592600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. IN DEBUT PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.170107	15.39	0.970847	-0.011947	0.109223
0.630E-03	0.161733	15.82	0.957368	-0.008320	0.156836
0.400E-03	0.154517	16.22	0.938871	-0.006233	0.209357
0.250E-03	0.147923	16.60	0.915191	-0.005289	0.246735
0.160E-03	0.142346	16.93	0.891525	-0.005118	0.254954
0.100E-03	0.137074	17.26	0.868189	-0.005276	0.247336
0.630E-04	0.132400	17.56	0.847728	-0.005530	0.235985
0.400E-04	0.128225	17.84	0.829877	-0.005786	0.225541
0.250E-04	0.124282	18.11	0.813385	-0.006032	0.216327
0.160E-04	0.120845	18.36	0.799252	-0.006246	0.208915
0.100E-04	0.117507	18.60	0.785693	-0.006454	0.202194
0.630E-05	0.114474	18.83	0.773476	-0.006644	0.196400
0.400E-05	0.111704	19.04	0.762380	-0.006821	0.191300
0.250E-05	0.109033	19.25	0.751725	-0.006996	0.186509
0.160E-05	0.106663	19.44	0.742291	-0.007157	0.182329
0.100E-05	0.104322	19.63	0.733292	-0.007321	0.178249
0.630E-06	0.102161	19.81	0.724419	-0.007478	0.174511
0.400E-06	0.100160	19.99	0.716483	-0.007628	0.171065
0.250E-06	0.098205	20.16	0.708736	-0.007781	0.167710
0.160E-06	0.096449	20.31	0.701179	-0.007923	0.164703
0.100E-06	0.094695	20.47	0.694834	-0.008070	0.161703
0.630E-07	0.093059	20.62	0.688357	-0.008212	0.158908
0.400E-07	0.091530	20.77	0.682300	-0.008349	0.156294
0.250E-07	0.090022	20.91	0.676331	-0.008489	0.153719
0.160E-07	0.088656	21.05	0.670923	-0.008620	0.151387
0.100E-07	0.087281	21.18	0.665481	-0.008755	0.149040
0.630E-08	0.085989	21.31	0.660324	-0.008897	0.146834
0.400E-08	0.084772	21.43	0.655349	-0.009015	0.144756
0.250E-08	0.083565	21.56	0.650572	-0.009145	0.142895
0.160E-08	0.082464	21.67	0.646413	-0.009267	0.140816
0.100E-08	0.081350	21.79	0.642003	-0.009394	0.138914
0.630E-09	0.080297	21.91	0.637835	-0.009517	0.137116
0.400E-09	0.079300	22.01	0.633888	-0.009636	0.135413
0.250E-09	0.078306	22.12	0.629953	-0.009759	0.133716
0.160E-09	0.077395	22.23	0.626348	-0.009874	0.132161
0.100E-09	0.076469	22.33	0.622682	-0.009993	0.130580
0.630E-10	0.075590	22.43	0.619202	-0.010109	0.129078
0.400E-10	0.074754	22.53	0.615894	-0.010222	0.127651
0.250E-10	0.073917	22.63	0.612581	-0.010338	0.126222
0.160E-10	0.073148	22.72	0.609536	-0.010447	0.124909
0.100E-10	0.072363	22.81	0.606428	-0.010560	0.123568
0.630E-11	0.071614	22.90	0.603467	-0.010671	0.122290
0.400E-11	0.070901	22.99	0.600642	-0.010778	0.121072
0.250E-11	0.070184	23.08	0.597805	-0.010888	0.119848
0.160E-11	0.069523	23.16	0.595189	-0.010992	0.118719
0.100E-11	0.068847	23.24	0.592511	-0.011100	0.117564
0.630E-12	0.068200	23.32	0.589952	-0.011205	0.116460
0.400E-12	0.067582	23.40	0.587504	-0.011307	0.115404
0.250E-12	0.066959	23.48	0.585040	-0.011412	0.114341
0.160E-12	0.066383	23.56	0.582761	-0.011511	0.113358
0.100E-12	0.065793	23.64	0.580422	-0.011615	0.112349
0.630E-13	0.065227	23.71	0.578183	-0.011716	0.111383
0.400E-13	0.064684	23.78	0.576036	-0.011814	0.110456
0.250E-13	0.064137	23.86	0.573869	-0.011915	0.109522
0.160E-13	0.063630	23.93	0.571861	-0.012010	0.108656
0.100E-13	0.063108	24.00	0.569797	-0.012109	0.107745
0.630E-14	0.062608	24.07	0.567816	-0.012206	0.106910
0.400E-14	0.062127	24.13	0.565913	-0.012300	0.106089
0.250E-14	0.061641	24.20	0.563989	-0.012397	0.105259
0.160E-14	0.061189	24.27	0.562202	-0.012489	0.104489
0.100E-14	0.060725	24.33	0.560362	-0.012584	0.103695

# BASFBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100F-02	0.170107	15.39	0.970847	-0.011947	0.109223
0.630F-03	0.161733	15.82	0.957368	-0.008320	0.156836
0.400F-03	0.154517	16.22	0.938871	-0.006233	0.209357
0.250F-03	0.147923	16.60	0.915191	-0.005289	0.246735
0.160F-03	0.142346	16.93	0.891525	-0.005118	0.254954
0.100F-03	0.137074	17.26	0.868189	-0.005276	0.247336
0.630F-04	0.132400	17.56	0.847728	-0.005530	0.235985
0.400F-04	0.128225	17.84	0.829877	-0.005786	0.225541
0.250F-04	0.124282	18.11	0.813385	-0.006032	0.216327
0.160F-04	0.120845	18.36	0.798252	-0.006246	0.208915
0.100F-04	0.117507	18.60	0.785693	-0.006454	0.202194
0.630F-05	0.114474	18.83	0.773676	-0.006644	0.196400
0.400F-05	0.111704	19.04	0.762380	-0.006821	0.191300
0.250F-05	0.109033	19.25	0.751725	-0.006996	0.186509
0.160F-05	0.106663	19.44	0.742291	-0.007157	0.182329
0.100F-05	0.104322	19.63	0.732992	-0.007321	0.178249
0.630F-06	0.102161	19.81	0.724419	-0.007478	0.174511
0.400F-06	0.100160	19.99	0.716483	-0.007628	0.171065
0.250F-06	0.098205	20.16	0.708736	-0.007781	0.167710
0.160F-06	0.096449	20.31	0.701779	-0.007923	0.164703
0.100F-06	0.094695	20.47	0.694834	-0.008070	0.161703
0.630F-07	0.093059	20.62	0.688357	-0.008212	0.158908
0.400F-07	0.091530	20.77	0.682300	-0.008349	0.156294
0.250F-07	0.090022	20.91	0.676331	-0.008489	0.153719
0.160F-07	0.088656	21.05	0.670923	-0.008620	0.151387
0.100F-07	0.087281	21.18	0.665481	-0.008755	0.149040
0.630F-08	0.085989	21.31	0.660366	-0.008887	0.146834
0.400F-08	0.084772	21.43	0.655549	-0.009015	0.144756
0.250F-08	0.083565	21.56	0.650770	-0.009145	0.142895
0.160F-08	0.082464	21.67	0.646413	-0.009267	0.140816
0.100F-08	0.081350	21.79	0.642003	-0.009394	0.138914
0.630F-09	0.080297	21.91	0.637835	-0.009517	0.137116
0.400F-09	0.079300	22.01	0.633888	-0.009636	0.135413
0.250F-09	0.078306	22.12	0.629953	-0.009759	0.133716
0.160F-09	0.077395	22.23	0.626348	-0.009874	0.132161
0.100F-09	0.076469	22.33	0.622687	-0.009993	0.130580

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3200  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.075590	22.43	0.619202	-0.010109	0.129078
0.400E-10	0.074754	22.53	0.615894	-0.010222	0.127651
0.250E-10	0.073917	22.63	0.612581	-0.010338	0.126222
0.160E-10	0.073148	22.72	0.609536	-0.010447	0.124909
0.100E-10	0.072363	22.81	0.606428	-0.010560	0.123568
0.630E-11	0.071614	22.90	0.603467	-0.010671	0.122290
0.400E-11	0.070901	22.99	0.600642	-0.010778	0.121072
0.250E-11	0.070184	23.08	0.597805	-0.010888	0.119848
0.160E-11	0.069523	23.16	0.595189	-0.010992	0.118719
0.100E-11	0.068867	23.24	0.592511	-0.011100	0.117564
0.630E-12	0.068200	23.32	0.589952	-0.011205	0.116460
0.400E-12	0.067582	23.40	0.587504	-0.011307	0.115404
0.250E-12	0.066959	23.48	0.585040	-0.011412	0.114341
0.160E-12	0.066383	23.56	0.582761	-0.011511	0.113358
0.100E-12	0.065793	23.64	0.580422	-0.011615	0.112349
0.630E-13	0.065227	23.71	0.578183	-0.011716	0.111383
0.400E-13	0.064684	23.78	0.576036	-0.011814	0.110456
0.250E-13	0.064137	23.86	0.573869	-0.011915	0.109522
0.160E-13	0.063630	23.93	0.571861	-0.012010	0.108656
0.100E-13	0.063104	24.00	0.569797	-0.012109	0.107765
0.630E-14	0.062608	24.07	0.567816	-0.012206	0.106910
0.400E-14	0.062127	24.13	0.565913	-0.012300	0.106089
0.250E-14	0.061661	24.20	0.563989	-0.012397	0.105259
0.160E-14	0.061189	24.27	0.562202	-0.012489	0.104489
0.100E-14	0.060725	24.33	0.560362	-0.012584	0.103695

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BYTE RATE = 12552600. AND ERROR SIGNAL DIVIDED RATIO INTO D/A CONVERTER = 4.

0.100E-02	0.164961	15.65	0.971605	-0.012265	0.106394
0.630E-03	0.156795	16.09	0.958523	-0.008550	0.152620
0.400E-03	0.149772	16.49	0.940569	-0.004409	0.203616
0.250E-03	0.143365	16.87	0.917585	-0.005440	0.239882
0.160E-03	0.137931	17.21	0.894619	-0.005266	0.247800
0.100E-03	0.132836	17.53	0.871979	-0.005430	0.240332
0.630E-04	0.128304	17.84	0.852133	-0.005692	0.229254
0.400E-04	0.124257	18.11	0.834819	-0.005957	0.219071
0.250E-04	0.120835	18.38	0.818824	-0.006211	0.210093
0.160E-04	0.117103	18.63	0.805116	-0.006432	0.202873
0.100E-04	0.113869	18.87	0.791964	-0.006647	0.196328
0.630E-05	0.110929	19.10	0.780113	-0.006843	0.190688
0.400E-05	0.108245	19.31	0.769348	-0.007026	0.185725
0.250E-05	0.105657	19.52	0.759012	-0.007207	0.181065
0.160E-05	0.103360	19.71	0.749859	-0.007372	0.177000
0.100E-05	0.101091	19.91	0.740835	-0.007541	0.173033
0.630E-06	0.989957	20.09	0.732516	-0.007703	0.169399
0.400E-06	0.979708	20.26	0.724815	-0.007858	0.166051
0.250E-06	0.955164	20.43	0.717298	-0.008016	0.162792
0.160E-06	0.933462	20.59	0.710546	-0.008162	0.159870
0.100E-06	0.91763	20.75	0.703807	-0.008314	0.156957
0.630E-07	0.90177	20.97	0.697521	-0.008460	0.154241
0.400E-07	0.886855	21.04	0.691642	-0.008602	0.151703
0.250E-07	0.887234	21.19	0.685849	-0.008746	0.149203
0.160E-07	0.885910	21.32	0.680600	-0.008881	0.146938
0.100E-07	0.884578	21.45	0.675318	-0.009021	0.144660
0.630E-08	0.883326	21.58	0.670354	-0.009156	0.142518
0.400E-08	0.882147	21.71	0.665679	-0.009288	0.140501
0.250E-08	0.880977	21.83	0.661041	-0.009422	0.138500
0.160E-08	0.879910	21.95	0.656812	-0.009547	0.136676
0.100E-08	0.878831	22.07	0.652532	-0.009678	0.134829
0.630E-09	0.877810	22.18	0.648486	-0.009805	0.133084
0.400E-09	0.876844	22.29	0.644656	-0.009928	0.131431
0.250E-09	0.875881	22.40	0.640836	-0.010054	0.129784
0.160E-09	0.874998	22.50	0.637338	-0.010173	0.128274
0.100E-09	0.874101	22.60	0.633780	-0.010296	0.126740
0.630E-10	0.873249	22.70	0.630402	-0.010416	0.125282
0.400E-10	0.872439	22.80	0.627191	-0.010532	0.123897
0.250E-10	0.871628	22.90	0.623976	-0.010651	0.122510
0.160E-10	0.870882	22.99	0.621020	-0.010763	0.121235
0.100E-10	0.870121	23.08	0.618003	-0.010880	0.119934
0.630E-11	0.869397	23.17	0.615129	-0.010994	0.118694
0.400E-11	0.868705	23.26	0.612388	-0.011105	0.117511
0.250E-11	0.868011	23.35	0.609634	-0.011218	0.116323
0.160E-11	0.867370	23.43	0.607095	-0.011325	0.115228
0.100E-11	0.866714	23.52	0.604495	-0.011436	0.114106
0.630E-12	0.866088	23.60	0.602012	-0.011544	0.113035
0.400E-12	0.865489	23.68	0.599636	-0.011650	0.112010
0.250E-12	0.864885	23.76	0.597244	-0.011758	0.110978
0.160E-12	0.864327	23.83	0.595032	-0.011860	0.110024
0.100E-12	0.863755	23.91	0.592763	-0.011967	0.109045
0.630E-13	0.863207	23.98	0.590589	-0.012071	0.108107
0.400E-13	0.862681	24.06	0.588505	-0.012172	0.107208
0.250E-13	0.862151	24.13	0.586402	-0.012276	0.106301
0.160E-13	0.861659	24.20	0.584454	-0.012374	0.105460
0.100E-13	0.861154	24.27	0.582450	-0.012476	0.104595
0.630E-14	0.860649	24.34	0.580527	-0.012576	0.103766
0.400E-14	0.860203	24.41	0.578680	-0.012673	0.102969
0.250E-14	0.859732	24.48	0.576812	-0.012773	0.102163
0.160E-14	0.859294	24.54	0.575079	-0.012867	0.101415
0.100E-14	0.858844	24.61	0.573293	-0.012965	0.100645

# BASFBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100F-02	0.164961	15.65	0.971605	-0.012285	0.108394
0.630F-03	0.156795	16.09	0.958523	-0.008550	0.152620
0.400F-03	0.149772	16.49	0.940569	-0.006409	0.203616
0.250F-03	0.143365	16.87	0.917585	-0.005440	0.239882
0.160F-03	0.137951	17.21	0.894619	-0.005266	0.247800
0.100F-03	0.132836	17.53	0.871979	-0.005430	0.240332
0.630F-04	0.128304	17.84	0.852133	-0.005692	0.229254
0.400F-04	0.124257	18.11	0.834819	-0.005957	0.219071
0.250F-04	0.120435	18.38	0.818824	-0.006211	0.210093
0.160F-04	0.117103	18.63	0.805116	-0.006432	0.202873
0.100F-04	0.113869	18.87	0.791964	-0.006647	0.196328
0.630F-05	0.110929	19.10	0.780113	-0.006843	0.190688
0.400F-05	0.108245	19.31	0.769348	-0.007026	0.185725
0.250F-05	0.105657	19.52	0.759012	-0.007207	0.181065
0.160F-05	0.103360	19.71	0.749859	-0.007372	0.177000
0.100F-05	0.101091	19.91	0.740835	-0.007541	0.173033
0.630F-06	0.098997	20.09	0.732516	-0.007703	0.169399
0.400F-06	0.097058	20.26	0.724815	-0.007858	0.166051
0.250F-06	0.095154	20.43	0.717298	-0.008016	0.162792
0.160F-06	0.093462	20.59	0.710546	-0.008162	0.159870
0.100F-06	0.091763	20.75	0.703807	-0.008314	0.156957
0.630F-07	0.090177	20.90	0.697521	-0.008460	0.154241
0.400F-07	0.088695	21.04	0.691642	-0.008602	0.151703
0.250F-07	0.087234	21.19	0.685849	-0.008746	0.149203
0.160F-07	0.085910	21.32	0.680600	-0.008881	0.146938
0.100F-07	0.084578	21.45	0.675318	-0.009021	0.144660
0.630F-08	0.083326	21.58	0.670354	-0.009156	0.142518
0.400F-08	0.082147	21.71	0.665679	-0.009288	0.140501
0.250F-08	0.080977	21.83	0.661041	-0.009422	0.138500
0.160F-08	0.079910	21.95	0.656812	-0.009547	0.136676
0.100F-08	0.078831	22.07	0.652532	-0.009678	0.134829
0.630F-09	0.077810	22.18	0.648486	-0.009805	0.133084
0.400F-09	0.076844	22.29	0.644656	-0.009928	0.131431
0.250F-09	0.075881	22.40	0.640836	-0.010054	0.129784
0.160F-09	0.074948	22.50	0.637338	-0.010173	0.128274
0.100F-09	0.074101	22.60	0.633780	-0.010296	0.126740

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- DERIV PER WRT A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- TIME CONSTANT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN RATE RATE = 12552600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND FVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3400  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.073249	22.70	0.630402	-0.010416	0.125282
0.400E-10	0.072439	22.80	0.627191	-0.010532	0.123897
0.250E-10	0.071628	22.90	0.623976	-0.010651	0.122510
0.160E-10	0.070882	22.99	0.621020	-0.010763	0.121235
0.100E-10	0.070121	23.08	0.618003	-0.010880	0.119934
0.630E-11	0.069397	23.17	0.615129	-0.010994	0.118694
0.400E-11	0.068705	23.26	0.612388	-0.011105	0.117511
0.250E-11	0.068011	23.35	0.609634	-0.011218	0.116323
0.160E-11	0.067370	23.43	0.607095	-0.011325	0.115228
0.100E-11	0.066714	23.52	0.604495	-0.011436	0.114106
0.630E-12	0.066088	23.60	0.602017	-0.011544	0.113035
0.400E-12	0.065489	23.68	0.599636	-0.011650	0.112010
0.250E-12	0.064885	23.76	0.597263	-0.011758	0.110978
0.160E-12	0.064327	23.83	0.595032	-0.011860	0.110024
0.100E-12	0.063755	23.91	0.592763	-0.011967	0.109045
0.630E-13	0.063207	23.98	0.590589	-0.012071	0.108107
0.400E-13	0.062681	24.06	0.588505	-0.012172	0.107208
0.250E-13	0.062151	24.13	0.586402	-0.012276	0.106301
0.160E-13	0.061659	24.20	0.584454	-0.012374	0.105460
0.100E-13	0.061154	24.27	0.582450	-0.012476	0.104595
0.630E-14	0.060669	24.34	0.580527	-0.012576	0.103766
0.400E-14	0.060203	24.41	0.578680	-0.012673	0.102969
0.250E-14	0.059732	24.48	0.576812	-0.012773	0.102163
0.160E-14	0.059294	24.54	0.575079	-0.012867	0.101415
0.100E-14	0.058864	24.61	0.573293	-0.012965	0.100665

## NOMENCLATURE:

- 0 = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- AIDR = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- N / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- SNR = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- DERIV PER WRT TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- TIME CONSTANT = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN BITE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.159765	15.93	0.972399	-0.012617	0.103424
0.630E-03	0.151825	16.37	0.959718	-0.008802	0.148246
0.400E-03	0.145009	16.77	0.942311	-0.006601	0.197698
0.250E-03	0.138797	17.15	0.920026	-0.005604	0.232849
0.160E-03	0.133550	17.49	0.897760	-0.005426	0.250485
0.100E-03	0.128596	17.82	0.875814	-0.005596	0.233196
0.630E-04	0.124207	18.12	0.856577	-0.005867	0.222417
0.400E-04	0.120288	18.40	0.839796	-0.006140	0.212516
0.250E-04	0.116587	18.67	0.824292	-0.006403	0.203789
0.160E-04	0.113362	18.91	0.811004	-0.006632	0.196774
0.100E-04	0.110231	19.15	0.798255	-0.006853	0.190416
0.630E-05	0.107395	19.38	0.786766	-0.007056	0.184938
0.400E-05	0.104786	19.59	0.776330	-0.007245	0.180120
0.250E-05	0.102281	19.80	0.766308	-0.007431	0.175595
0.160E-05	0.100037	20.00	0.757434	-0.007602	0.171650
0.100E-05	0.997862	20.19	0.748685	-0.007777	0.167800
0.630E-06	0.995835	20.37	0.740619	-0.007943	0.164274
0.400E-06	0.993957	20.54	0.733152	-0.008104	0.161025
0.250E-06	0.992123	20.71	0.725863	-0.008266	0.157864
0.160E-06	0.990476	20.87	0.719316	-0.008417	0.155029
0.100E-06	0.988831	21.03	0.712781	-0.008573	0.152203
0.630E-07	0.987296	21.18	0.706686	-0.008724	0.149570
0.400E-07	0.985861	21.32	0.700985	-0.008870	0.147108
0.250E-07	0.984447	21.47	0.695368	-0.009019	0.144683
0.160E-07	0.983166	21.60	0.690279	-0.009158	0.142487
0.100E-07	0.981876	21.74	0.685157	-0.009302	0.140277
0.630E-08	0.980664	21.87	0.680343	-0.009442	0.138200
0.400E-08	0.979522	21.99	0.675810	-0.009578	0.136244
0.250E-08	0.978390	22.11	0.671312	-0.009716	0.134304
0.160E-08	0.977357	22.23	0.667212	-0.009846	0.132535
0.100E-08	0.976312	22.35	0.663061	-0.009981	0.130744
0.630E-09	0.975324	22.46	0.659138	-0.010112	0.129051
0.400E-09	0.974389	22.57	0.655424	-0.010239	0.127449
0.250E-09	0.973456	22.68	0.651720	-0.010369	0.125851
0.160E-09	0.972602	22.78	0.648327	-0.010491	0.124387
0.100E-09	0.971733	22.89	0.644877	-0.010618	0.122899
0.630E-10	0.970909	22.99	0.641602	-0.010741	0.121486
0.400E-10	0.970125	23.08	0.638488	-0.010861	0.120143
0.250E-10	0.969340	23.18	0.635371	-0.010984	0.118798
0.160E-10	0.968618	23.27	0.632504	-0.011100	0.117561
0.100E-10	0.967881	23.37	0.629579	-0.011220	0.116299
0.630E-11	0.967179	23.46	0.626792	-0.011337	0.115097
0.400E-11	0.966510	23.54	0.624133	-0.011452	0.113950
0.250E-11	0.965838	23.63	0.621464	-0.011569	0.112798
0.160E-11	0.965218	23.71	0.619001	-0.011679	0.111736
0.100E-11	0.964593	23.80	0.616480	-0.011793	0.110648
0.630E-12	0.963977	23.88	0.614072	-0.011905	0.109609
0.400E-12	0.963396	23.96	0.611768	-0.012014	0.108616
0.250E-12	0.962812	24.04	0.609449	-0.012126	0.107615
0.160E-12	0.962272	24.11	0.607304	-0.012231	0.106690
0.100E-12	0.961718	24.19	0.605103	-0.012341	0.105740
0.630E-13	0.961187	24.27	0.602996	-0.012448	0.104831
0.400E-13	0.960679	24.34	0.600975	-0.012552	0.103959
0.250E-13	0.960165	24.41	0.598936	-0.012659	0.103079
0.160E-13	0.959689	24.48	0.597046	-0.012760	0.102264
0.100E-13	0.959200	24.55	0.595103	-0.012866	0.101426
0.630E-14	0.958730	24.62	0.593238	-0.012968	0.100621
0.400E-14	0.958279	24.69	0.591447	-0.013069	0.099849
0.250E-14	0.957823	24.76	0.589636	-0.013172	0.099067
0.160E-14	0.957400	24.82	0.587955	-0.013269	0.098342
0.100E-14	0.956964	24.89	0.586224	-0.013371	0.097595

# BASEBAND FIVE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.159765	15.93	0.972399	-0.012617	0.103424
0.630E-03	0.151625	16.37	0.959718	-0.008802	0.148246
0.400E-03	0.145009	16.77	0.942311	-0.006601	0.197498
0.250E-03	0.138797	17.15	0.920028	-0.005604	0.232849
0.160E-03	0.133550	17.49	0.897760	-0.005426	0.240485
0.100E-03	0.128596	17.82	0.875814	-0.005596	0.233196
0.630E-04	0.124207	18.12	0.856577	-0.005867	0.222417
0.400E-04	0.120288	18.40	0.839796	-0.006140	0.212516
0.250E-04	0.116587	18.67	0.824292	-0.006403	0.203789
0.160E-04	0.113362	18.91	0.811004	-0.006632	0.196774
0.100E-04	0.110231	19.15	0.798255	-0.006853	0.190416
0.630E-05	0.107385	19.38	0.786766	-0.007056	0.184938
0.400E-05	0.104786	19.59	0.776330	-0.007245	0.180120
0.250E-05	0.102281	19.80	0.766308	-0.007431	0.175595
0.160E-05	0.100057	20.00	0.757434	-0.007602	0.171650
0.100E-05	0.097862	20.19	0.748685	-0.007777	0.167800
0.630E-06	0.095835	20.37	0.740619	-0.007943	0.164274
0.400E-06	0.093957	20.54	0.733152	-0.008104	0.161025
0.250E-06	0.092123	20.71	0.725863	-0.008266	0.157864
0.160E-06	0.090476	20.87	0.719316	-0.008417	0.155029
0.100E-06	0.088831	21.03	0.712781	-0.008573	0.152203
0.630E-07	0.087294	21.18	0.706686	-0.008724	0.149570
0.400E-07	0.085861	21.32	0.700985	-0.008870	0.147108
0.250E-07	0.084447	21.47	0.695368	-0.009019	0.144683
0.160E-07	0.083166	21.60	0.690279	-0.009158	0.142487
0.100E-07	0.081876	21.74	0.685157	-0.009302	0.140277
0.630E-08	0.080664	21.87	0.680343	-0.009442	0.138200
0.400E-08	0.079522	21.99	0.675810	-0.009578	0.136244
0.250E-08	0.078390	22.11	0.671312	-0.009716	0.134304
0.160E-08	0.077357	22.23	0.667217	-0.009846	0.132535
0.100E-08	0.076312	22.35	0.663061	-0.009981	0.130744
0.630E-09	0.075324	22.46	0.659138	-0.010112	0.129031
0.400E-09	0.074389	22.57	0.655424	-0.010239	0.127449
0.250E-09	0.073456	22.68	0.651720	-0.010369	0.125851
0.160E-09	0.072602	22.78	0.648327	-0.010491	0.124387
0.100E-09	0.071733	22.89	0.644877	-0.010618	0.122899

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- S/N = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN BITE RATE = 12552600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASFBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3600  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

BIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.070909	22.99	0.641602	-0.010741	0.121486
0.400E-10	0.070125	23.08	0.638488	-0.010861	0.120143
0.250E-10	0.069340	23.18	0.635371	-0.010984	0.118798
0.160E-10	0.068618	23.27	0.632304	-0.011100	0.117561
0.100E-10	0.067881	23.37	0.629379	-0.011220	0.116299
0.630E-11	0.067179	23.46	0.626792	-0.011337	0.115097
0.400E-11	0.066510	23.54	0.624133	-0.011452	0.113950
0.250E-11	0.065838	23.63	0.621644	-0.011569	0.112798
0.160E-11	0.065218	23.71	0.619001	-0.011679	0.111736
0.100E-11	0.064583	23.80	0.616480	-0.011793	0.110648
0.630E-12	0.063977	23.88	0.614072	-0.011905	0.109609
0.400E-12	0.063396	23.96	0.611768	-0.012014	0.108616
0.250E-12	0.062812	24.04	0.609449	-0.012126	0.107615
0.160E-12	0.062272	24.11	0.607304	-0.012231	0.106690
0.100E-12	0.061718	24.19	0.605103	-0.012341	0.105740
0.630E-13	0.061187	24.27	0.602996	-0.012448	0.104831
0.400E-13	0.060679	24.34	0.600975	-0.012552	0.103959
0.250E-13	0.060165	24.41	0.598936	-0.012659	0.103079
0.160E-13	0.059689	24.48	0.597046	-0.012760	0.102264
0.100E-13	0.059200	24.55	0.595103	-0.012866	0.101426
0.630E-14	0.058730	24.62	0.593238	-0.012968	0.100621
0.400E-14	0.058279	24.69	0.591447	-0.013069	0.099849
0.250E-14	0.057823	24.76	0.589636	-0.013172	0.099067
0.160E-14	0.057400	24.82	0.587955	-0.013269	0.098342
0.100E-14	0.056964	24.89	0.586224	-0.013371	0.097595

## EXPLANATION:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- S-R = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- A / S RATIO = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL TIME CHANGES AROUND STEADY STATE VALUES WHEN RATE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

TABLE 15. 10-20-68 PRINTOUT ABOVE. TABLE WAS CALLED.

0.100E-02	0.154538	16.22	0.973221	-0.013003	0.100351
0.300E-03	0.146840	16.66	0.960961	-0.009077	0.143761
0.500E-03	0.140238	17.06	0.944082	-0.006808	0.191683
0.700E-03	0.134225	17.44	0.922495	-0.005782	0.225701
0.100E-03	0.129148	17.78	0.900929	-0.005599	0.233072
0.100E-03	0.124356	18.11	0.879673	-0.005774	0.225983
0.300E-04	0.120111	18.41	0.861042	-0.006055	0.215520
0.500E-04	0.116321	18.69	0.844789	-0.006337	0.205914
0.700E-04	0.112742	18.96	0.829773	-0.006609	0.197449
0.100E-04	0.109624	19.20	0.816903	-0.006845	0.190646
0.100E-04	0.106595	19.45	0.804554	-0.007073	0.184481
0.300E-05	0.103844	19.67	0.793426	-0.007283	0.179170
0.500E-05	0.101330	19.89	0.783317	-0.007478	0.174499
0.700E-05	0.098908	20.10	0.773609	-0.007671	0.170115
0.100E-05	0.096757	20.29	0.765013	-0.007847	0.166291
0.100E-05	0.094634	20.48	0.756938	-0.008027	0.162560
0.300E-06	0.092474	20.66	0.748724	-0.008200	0.159143
0.500E-06	0.090858	20.83	0.741490	-0.008365	0.155995
0.700E-06	0.089085	21.00	0.734429	-0.008533	0.152932
0.100E-06	0.087492	21.16	0.728087	-0.008689	0.150186
0.100E-06	0.085901	21.32	0.721757	-0.008850	0.147448
0.300E-07	0.084417	21.47	0.715852	-0.009006	0.144896
0.500E-07	0.083029	21.62	0.710329	-0.009157	0.142512
0.700E-07	0.081662	21.76	0.704888	-0.009310	0.140162
0.100E-07	0.080423	21.89	0.699957	-0.009453	0.138034
0.100E-07	0.079174	22.03	0.694996	-0.009602	0.135893
0.300E-08	0.078003	22.16	0.690333	-0.009747	0.133881
0.500E-08	0.076900	22.28	0.685941	-0.009887	0.131986
0.700E-08	0.075804	22.41	0.681584	-0.010030	0.130107
0.100E-08	0.074806	22.52	0.677612	-0.010163	0.128393
0.100E-08	0.073795	22.64	0.673591	-0.010303	0.126658
0.300E-09	0.072840	22.75	0.669790	-0.010438	0.125019
0.500E-09	0.071936	22.86	0.666192	-0.010569	0.123466
0.700E-09	0.071034	22.97	0.662604	-0.010703	0.121918
0.100E-09	0.070208	23.07	0.659317	-0.010829	0.120500
0.100E-09	0.069368	23.18	0.655975	-0.010960	0.119058
0.300E-10	0.068570	23.28	0.652802	-0.011088	0.117690
0.500E-10	0.067812	23.37	0.649785	-0.011212	0.116388
0.700E-10	0.067053	23.47	0.646765	-0.011339	0.115085
0.100E-10	0.066355	23.56	0.643989	-0.011458	0.113887
0.100E-10	0.065642	23.66	0.641155	-0.011582	0.112685
0.300E-11	0.064964	23.75	0.638455	-0.011703	0.111500
0.500E-11	0.064316	23.83	0.635879	-0.011821	0.110389
0.700E-11	0.063666	23.92	0.633293	-0.011942	0.109273
0.100E-11	0.063067	24.00	0.630907	-0.012055	0.108244
0.100E-11	0.062453	24.09	0.628465	-0.012174	0.107191
0.300E-12	0.061867	24.17	0.626132	-0.012289	0.106184
0.500E-12	0.061306	24.25	0.623901	-0.012402	0.105221
0.700E-12	0.060761	24.33	0.621654	-0.012517	0.104252
0.100E-12	0.060218	24.41	0.619376	-0.012625	0.103356
0.100E-12	0.059683	24.48	0.617444	-0.012739	0.102436
0.300E-13	0.059169	24.56	0.615402	-0.012849	0.101555
0.500E-13	0.058677	24.63	0.613444	-0.012957	0.100710
0.700E-13	0.058181	24.70	0.611469	-0.013068	0.099858
0.100E-13	0.057721	24.77	0.609438	-0.013172	0.099048
0.100E-13	0.057248	24.84	0.607756	-0.013281	0.098256
0.300E-14	0.056793	24.91	0.605950	-0.013387	0.097477
0.500E-14	0.056357	24.98	0.604214	-0.013490	0.096728
0.700E-14	0.055914	25.05	0.602460	-0.013597	0.095972
0.100E-14	0.055507	25.11	0.600831	-0.013697	0.095269
0.100E-14	0.055084	25.18	0.599154	-0.013802	0.094545

# BASEBAND FYF PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

RIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.154538	16.22	0.979221	-0.013003	0.100351
0.630E-03	0.146840	16.66	0.960941	-0.009077	0.143761
0.400E-03	0.140238	17.06	0.944082	-0.006808	0.191663
0.250E-03	0.134225	17.44	0.922495	-0.005782	0.225701
0.160E-03	0.129148	17.78	0.900929	-0.005599	0.233072
0.100E-03	0.124356	18.11	0.879673	-0.005774	0.225983
0.630E-04	0.120111	18.41	0.861042	-0.006055	0.215520
0.400E-04	0.116321	18.69	0.844789	-0.006337	0.205914
0.250E-04	0.112742	18.96	0.829773	-0.006609	0.197449
0.160E-04	0.109624	19.20	0.816903	-0.006845	0.190646
0.100E-04	0.106595	19.45	0.804554	-0.007073	0.184481
0.630E-05	0.103844	19.67	0.793426	-0.007283	0.179170
0.400E-05	0.101330	19.89	0.783317	-0.007478	0.174499
0.250E-05	0.098908	20.10	0.773609	-0.007671	0.170115
0.160E-05	0.096757	20.29	0.765013	-0.007847	0.166291
0.100E-05	0.094634	20.48	0.756538	-0.008027	0.162560
0.630E-06	0.092474	20.66	0.748724	-0.008200	0.159143
0.400E-06	0.090858	20.83	0.741490	-0.008365	0.155995
0.250E-06	0.089085	21.00	0.734429	-0.008533	0.152932
0.160E-06	0.087492	21.16	0.728087	-0.008689	0.150186
0.100E-06	0.085901	21.32	0.721757	-0.008850	0.147448
0.630E-07	0.084417	21.47	0.715852	-0.008906	0.144896
0.400E-07	0.083029	21.62	0.710329	-0.009157	0.142512
0.250E-07	0.081662	21.76	0.704888	-0.009310	0.140162
0.160E-07	0.080423	21.89	0.699957	-0.009453	0.138034
0.100E-07	0.079176	22.03	0.694996	-0.009602	0.135893
0.630E-08	0.078003	22.16	0.690333	-0.009747	0.133881
0.400E-08	0.076900	22.28	0.685941	-0.009887	0.131936
0.250E-08	0.075804	22.41	0.681584	-0.010030	0.130107
0.160E-08	0.074806	22.52	0.677612	-0.010163	0.128393
0.100E-08	0.073795	22.64	0.673591	-0.010303	0.126658
0.630E-09	0.072840	22.75	0.669790	-0.010438	0.125019
0.400E-09	0.071936	22.86	0.666192	-0.010569	0.123466
0.250E-09	0.071034	22.97	0.662604	-0.010703	0.121918
0.160E-09	0.070208	23.07	0.659317	-0.010829	0.120500
0.100E-09	0.069368	23.18	0.655975	-0.010960	0.119058

## NOTATION:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.3800  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

AIDR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630E-10	0.068570	23.28	0.652802	-0.011088	0.117690
0.400E-10	0.067812	23.37	0.649785	-0.011217	0.116388
0.250E-10	0.067053	23.47	0.646785	-0.011339	0.115085
0.160E-10	0.066355	23.56	0.643989	-0.011458	0.113887
0.100E-10	0.065662	23.66	0.641155	-0.011582	0.112685
0.630E-11	0.064964	23.75	0.638455	-0.011703	0.111500
0.400E-11	0.064316	23.83	0.635879	-0.011821	0.110389
0.250E-11	0.063666	23.92	0.633293	-0.011942	0.109273
0.160E-11	0.063067	24.00	0.630907	-0.012055	0.108244
0.100E-11	0.062453	24.09	0.628485	-0.012174	0.107191
0.630E-12	0.061867	24.17	0.626132	-0.012289	0.106184
0.400E-12	0.061304	24.25	0.623901	-0.012402	0.105221
0.250E-12	0.060741	24.33	0.621654	-0.012517	0.104252
0.160E-12	0.060218	24.41	0.619376	-0.012625	0.103356
0.100E-12	0.059683	24.48	0.617444	-0.012739	0.102436
0.630E-13	0.059169	24.56	0.615402	-0.012849	0.101555
0.400E-13	0.058677	24.63	0.613444	-0.012957	0.100710
0.250E-13	0.058181	24.70	0.611469	-0.013068	0.099858
0.160E-13	0.057721	24.77	0.609638	-0.013172	0.099068
0.100E-13	0.057248	24.84	0.607756	-0.013281	0.098256
0.630E-14	0.056793	24.91	0.605950	-0.013387	0.097477
0.400E-14	0.056357	24.98	0.604214	-0.013490	0.096728
0.250E-14	0.055916	25.05	0.602460	-0.013597	0.095972
0.160E-14	0.055507	25.11	0.600831	-0.013697	0.095269
0.100E-14	0.055085	25.18	0.599154	-0.013802	0.094545

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- WHEN RATE = QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- DIVIDER RATIO INTO D/A CONVERTER = 12522600. AND ERROR SIGNAL

TRK IS IN DEBUG PRINTOUT MODE. TABLE WAS CALLED.

0.100E-02	0.149295	16.52	0.074061	-0.013424	0.097207
0.630E-03	0.141847	16.96	0.062181	-0.009374	0.139206
0.400E-03	0.135465	17.36	0.045869	-0.007032	0.185556
0.250E-03	0.129654	17.74	0.024981	-0.005973	0.218485
0.160E-03	0.124749	18.08	0.004112	-0.005784	0.225603
0.100E-03	0.120119	18.41	0.083545	-0.005966	0.218727
0.630E-04	0.116019	18.71	0.065517	-0.006256	0.208592
0.400E-04	0.112358	18.99	0.049791	-0.006548	0.199289
0.250E-04	0.108901	19.26	0.035261	-0.006829	0.181092
0.160E-04	0.105888	19.50	0.022807	-0.007073	0.184504
0.100E-04	0.102963	19.75	0.010857	-0.007309	0.178535
0.630E-05	0.100305	19.97	0.000088	-0.007526	0.173395
0.400E-05	0.097878	20.19	0.790306	-0.007727	0.168873
0.250E-05	0.095538	20.40	0.780911	-0.007926	0.164629
0.160E-05	0.093461	20.59	0.772592	-0.008109	0.160928
0.100E-05	0.091409	20.78	0.764391	-0.008295	0.157317
0.630E-06	0.089516	20.94	0.756829	-0.008473	0.154011
0.400E-06	0.087762	21.13	0.749829	-0.008644	0.150964
0.250E-06	0.086049	21.31	0.742996	-0.008817	0.147999
0.160E-06	0.084511	21.46	0.736859	-0.008978	0.145341
0.100E-06	0.082974	21.62	0.730732	-0.009145	0.142692
0.630E-07	0.081541	21.77	0.725018	-0.009306	0.140223
0.400E-07	0.080200	21.92	0.719674	-0.009462	0.137915
0.250E-07	0.078879	22.06	0.714407	-0.009620	0.135641
0.160E-07	0.077682	22.19	0.709636	-0.009769	0.133582
0.100E-07	0.076478	22.33	0.704835	-0.009923	0.131510
0.630E-08	0.075346	22.46	0.700322	-0.010072	0.129563
0.400E-08	0.074279	22.58	0.696072	-0.010216	0.127729
0.250E-08	0.073221	22.71	0.691855	-0.010364	0.125910
0.160E-08	0.072257	22.82	0.688011	-0.010502	0.124251
0.100E-08	0.071281	22.94	0.684120	-0.010646	0.122572
0.630E-09	0.070358	23.05	0.680442	-0.010786	0.120986
0.400E-09	0.069484	23.16	0.676960	-0.010921	0.119483
0.250E-09	0.068613	23.27	0.673488	-0.011060	0.117985
0.160E-09	0.067815	23.37	0.670307	-0.011190	0.116613
0.100E-09	0.067004	23.48	0.667072	-0.011326	0.115218
0.630E-10	0.066234	23.58	0.664002	-0.011457	0.113893
0.400E-10	0.065501	23.68	0.661082	-0.011585	0.112634
0.250E-10	0.064768	23.77	0.658160	-0.011717	0.111373
0.160E-10	0.064094	23.86	0.655473	-0.011840	0.110214
0.100E-10	0.063406	23.96	0.652730	-0.011968	0.109031
0.630E-11	0.062750	24.05	0.650118	-0.012093	0.107903
0.400E-11	0.062125	24.13	0.647625	-0.012215	0.106828
0.250E-11	0.061497	24.22	0.645122	-0.012340	0.105748
0.160E-11	0.060918	24.31	0.642813	-0.012457	0.104752
0.100E-11	0.060325	24.39	0.640450	-0.012580	0.103733
0.630E-12	0.059758	24.47	0.638193	-0.012699	0.102759
0.400E-12	0.059217	24.55	0.636033	-0.012815	0.101827
0.250E-12	0.058671	24.63	0.633858	-0.012934	0.100889
0.160E-12	0.058167	24.71	0.631848	-0.013046	0.100022
0.100E-12	0.057649	24.78	0.629784	-0.013163	0.099131
0.630E-13	0.057153	24.86	0.627808	-0.013278	0.098279
0.400E-13	0.056678	24.93	0.625914	-0.013389	0.097462
0.250E-13	0.056198	25.01	0.624002	-0.013503	0.096637
0.160E-13	0.055754	25.07	0.622230	-0.013611	0.095873
0.100E-13	0.055297	25.15	0.620409	-0.013723	0.095087
0.630E-14	0.054858	25.22	0.618661	-0.013833	0.094333
0.400E-14	0.054437	25.28	0.616982	-0.013940	0.093608
0.250E-14	0.054011	25.35	0.615284	-0.014050	0.092876
0.160E-14	0.053616	25.41	0.613708	-0.014154	0.092196
0.100E-14	0.053208	25.48	0.612085	-0.014262	0.091496

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.4000 2800.  
PSEUDO ERROR RATE EQUALS 1.0 /

AIDR ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.100E-02	0.149295	16.52	0.974061	-0.013424	0.097207
0.630E-03	0.141847	16.96	0.962181	-0.009374	0.139206
0.400E-03	0.135465	17.36	0.945869	-0.007032	0.185556
0.250E-03	0.129654	17.74	0.924981	-0.005973	0.218485
0.160E-03	0.124746	18.08	0.904112	-0.005784	0.225603
0.100E-03	0.120119	18.41	0.883545	-0.005966	0.218727
0.630E-04	0.116019	18.71	0.865517	-0.006256	0.208592
0.400E-04	0.112358	18.99	0.849791	-0.006548	0.199289
0.250E-04	0.108901	19.26	0.835261	-0.006829	0.191092
0.160E-04	0.105888	19.50	0.822807	-0.007073	0.184504
0.100E-04	0.102963	19.75	0.810857	-0.007309	0.178535
0.630E-05	0.100305	19.97	0.800088	-0.007524	0.173395
0.400E-05	0.097878	20.19	0.790306	-0.007727	0.168873
0.250E-05	0.095538	20.40	0.780911	-0.007926	0.164629
0.160E-05	0.093461	20.59	0.772592	-0.008109	0.160928
0.100E-05	0.091409	20.78	0.764391	-0.008295	0.157317
0.630E-06	0.089516	20.96	0.756829	-0.008473	0.154011
0.400E-06	0.087762	21.13	0.749829	-0.008644	0.150964
0.250E-06	0.086049	21.31	0.742996	-0.008817	0.147999
0.160E-06	0.084511	21.46	0.736859	-0.008978	0.145341
0.100E-06	0.082974	21.62	0.730732	-0.009145	0.142692
0.630E-07	0.081541	21.77	0.725018	-0.009306	0.140223
0.400E-07	0.080200	21.92	0.719674	-0.009462	0.137915
0.250E-07	0.078879	22.06	0.714407	-0.009620	0.135641
0.160E-07	0.077682	22.19	0.709636	-0.009769	0.133582
0.100E-07	0.076478	22.33	0.704835	-0.009923	0.131510
0.630E-08	0.075344	22.46	0.700322	-0.010072	0.129563
0.400E-08	0.074279	22.58	0.696072	-0.010216	0.127729
0.250E-08	0.073221	22.71	0.691855	-0.010364	0.125910
0.160E-08	0.072257	22.82	0.688011	-0.010502	0.124251
0.100E-08	0.071281	22.94	0.684120	-0.010646	0.122572
0.630E-09	0.070358	23.05	0.680442	-0.010786	0.120986
0.400E-09	0.069484	23.16	0.676960	-0.010921	0.119483
0.250E-09	0.068613	23.27	0.673488	-0.011060	0.117985
0.160E-09	0.067815	23.37	0.670307	-0.011190	0.116613
0.100E-09	0.067004	23.48	0.667072	-0.011326	0.115219

## NOMENCLATURE:

- D = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE
- AIDR = THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT A / D RATIO = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES
- WHEN RATE = 1252600. AND ERROR SIGNAL
- DIVIDER RATIO INTO D/A CONVERTER = 4.

# BASEBAND EYE PATTERN MONITOR TABLES

TABLE FOR AIDR EQUALS 0.4000  
PSEUDO ERROR RATE EQUALS 1.0 / 2800.

PIT ERROR RATE	N / S RATIO	SNR IN DB	A / D RATIO	DERIV PER WRT A / D	TIME CONSTANT
0.630F-10	0.066234	23.98	0.664002	-0.011457	0.113893
0.400F-10	0.065501	23.68	0.661082	-0.011585	0.112634
0.250F-10	0.064768	23.77	0.658160	-0.011717	0.111373
0.160F-10	0.064094	23.86	0.655473	-0.011840	0.110214
0.100F-10	0.063406	23.96	0.652730	-0.011968	0.109031
0.630E-11	0.062750	24.05	0.650118	-0.012099	0.107903
0.400E-11	0.062125	24.13	0.647625	-0.012215	0.106828
0.250E-11	0.061497	24.22	0.645122	-0.012340	0.105748
0.160E-11	0.060918	24.31	0.642813	-0.012457	0.104752
0.100E-11	0.060325	24.39	0.640450	-0.012580	0.103733
0.630E-12	0.059758	24.47	0.638193	-0.012699	0.102759
0.400E-12	0.059217	24.55	0.636033	-0.012815	0.101827
0.250E-12	0.058671	24.63	0.633858	-0.012934	0.100889
0.160E-12	0.058167	24.71	0.631848	-0.013046	0.100022
0.100E-12	0.057649	24.78	0.629784	-0.013163	0.099131
0.630E-13	0.057153	24.86	0.627808	-0.013278	0.098279
0.400E-13	0.056678	24.93	0.625914	-0.013389	0.097462
0.250E-13	0.056198	25.01	0.624002	-0.013503	0.096637
0.160E-13	0.055754	25.07	0.622230	-0.013611	0.095873
0.100E-13	0.055297	25.15	0.620409	-0.013723	0.095087
0.630E-14	0.054858	25.22	0.618661	-0.013833	0.094333
0.400E-14	0.054437	25.28	0.616982	-0.013940	0.093608
0.250E-14	0.054011	25.35	0.615284	-0.014050	0.092876
0.160E-14	0.053616	25.41	0.613708	-0.014154	0.092196
0.100E-14	0.053320	25.48	0.612085	-0.014262	0.091496

## NOMENCLATURE:

- AIDR = HALF OF THE NORMAL DISTANCE BETWEEN DATA LEVELS FOR THE THREE LEVEL EYE I.E., DECISION LEVEL.
- N / S RATIO = AMPLITUDE OF INTERSYMBOL INTERFERENCE TO D RATIO.
- SNR = RMS NOISE TO RMS SIGNAL RATIO.
- A / D RATIO = SIGNAL POWER TO NOISE POWER IN DECIBELS.
- DERIV PER WRT = ADAPTIVE THRESHOLD AMPLITUDE TO D RATIO.
- TIME CONSTANT = DERIVATIVE OF PSEUDO ERROR RATE WITH RESPECT TO A / D RATIO.
- QUASILINEAR TIME CONSTANT OF THE ADAPTIVE THRESHOLD LOOP FOR SMALL CHANGES AROUND STEADY STATE VALUES WHEN RATE RATE = 12552600. AND ERROR SIGNAL DIVIDER RATIO INTO 0/A CONVERTER = 4.